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## **Appendix B: Water Quality Calibration and Validation for the Floyds Fork Watershed**

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Table B-1 LSPC Watershed Water Quality Calibration Stations

Station	Agency	Site Name	USGS Drainage Area (mi <sup>2</sup> )	USGS Drainage Area (acres)	LSPC Watershed	LSPC Drainage Area (acres)	Type	Parameter
03297830	USGS	Floyds Fork at Highway 53	20	12736	244	12095	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03297845	USGS	Floyds Fork near Crestwood	47	29888	229	29772	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03297850	USGS	South Fork Curry's Fork at Moody Lane	1	742	220	689	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03297855	USGS	South Fork Curry's Fork at Highway 393	9	5939	215	4707	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03297860	USGS	North Fork Curry's Fork at Stone Ridge road	10	6464	210	6464	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03297875	USGS	Ashers Run at Abbott lane near Crestwood	3	2150	225	1812	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03297880	USGS	Currys Fork near Crestwood	29	18240	617	18202	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03297900	USGS	Floyds Fork near Pee wee Valley	80	51136	615	53084	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03297930	USGS	Floyds Fork at Echo trail bridge	104	66560	185	66898	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03297950	USGS	Long Run at Old stage coach road	6	3571	263	3549	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03297975	USGS	South Long Run at Hobbs Lane	8	4890	274	4341	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03297980	USGS	Long Run near Fisherville	23	14400	250	15297	Calibration	TEMP, DO, BOD5, TN, TP, TGS
03298000	USGS	Floyds Fork at Fisherville	138	88320	180	88803	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298005	USGS	Pope lick at South popee lick road near Fisherville	10	6202	174	6196	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298020	USGS	Chenoweth Run at Gelhaus Lane	14	9088	283	8954	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298100	USGS	Pope lick at pope lick road near Middletown	3	1856	178	1894	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298110	USGS	Pope lick at Rehl road near Fisherville	1	958	176	869	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298120	USGS	Floyds Fork at Seatonville Road	172	110680	169	110308	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298135	USGS	Chenoweth Run at Rucknigal Parkway	5	3501	167	3449	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298138	USGS	Chenoweth Run at Jefferson STP at Jeffersontown	6	4096	610	4009	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298150	USGS	Chenoweth Run at Gelhaus Lane near Fern creek	12	7424	609	8176	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298160	USGS	Chenoweth Run at Seatonville road near Jeffersontown	17	10707	158	10689	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298200	USGS	Floyds Fork near Mt. Washington	213	136320	606	137052	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298250	USGS	Cedar Creek at Thixton Road	11	7104	134	7212	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298300	USGS	Pennsylvania Run at Mt. Washington	6	4096	130	4182	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298470	USGS	Floyds Fork near Shepherdsville	283	181120	102	182087	Calibration	TEMP, DO, BOD5, TN, TP, TSS

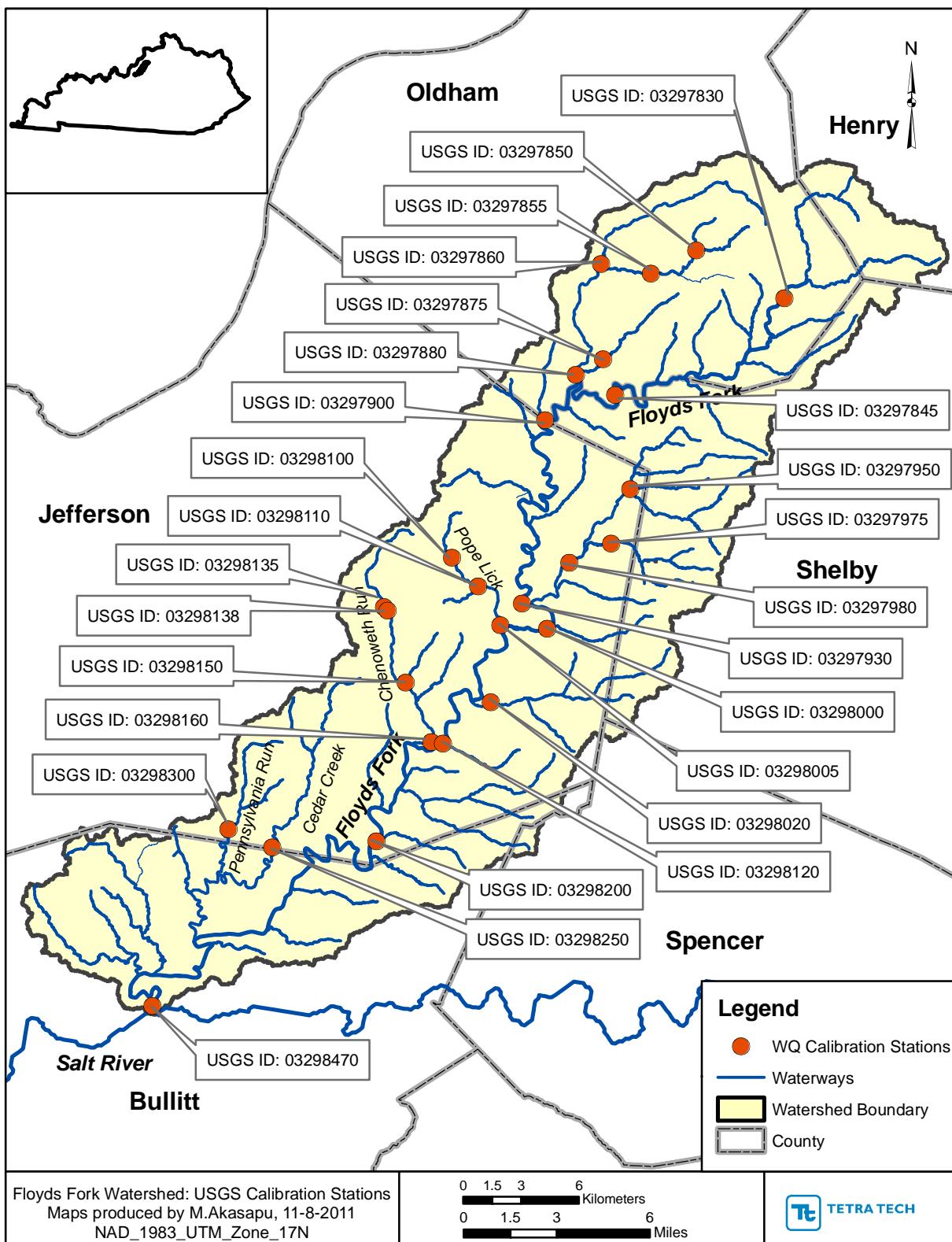


Figure B-1 USGS Water Quality Calibration Stations Utilized in the Floyds Fork Watershed Model

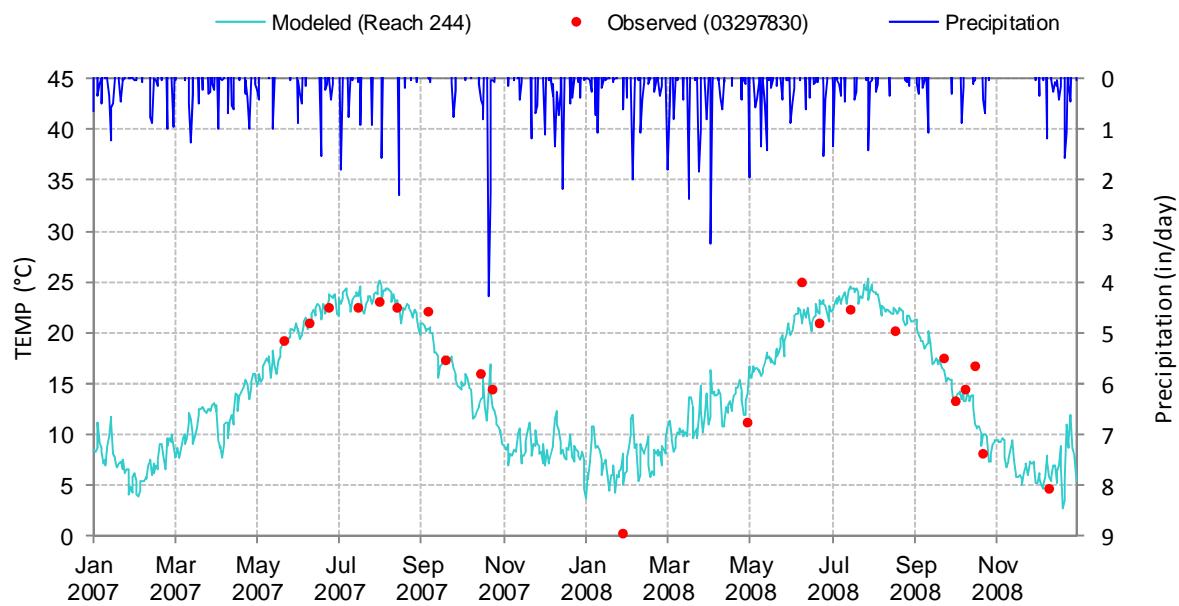
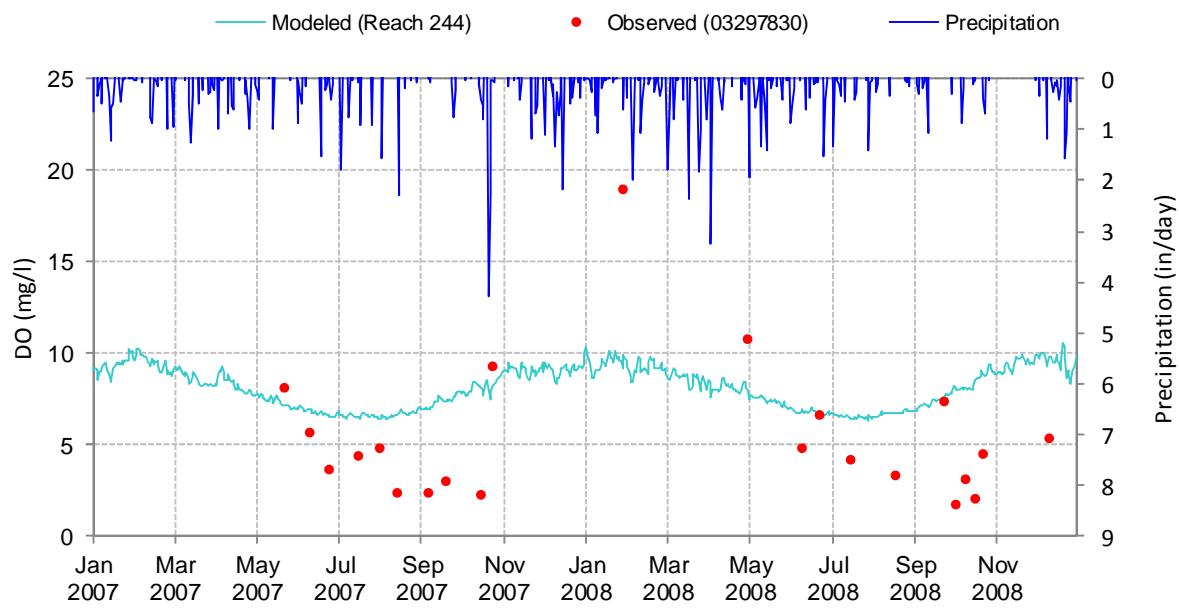
Figure B-2 Modeled vs. Observed TEMP ( $^{\circ}\text{C}$ ) at 03297830

Figure B-3 Modeled vs. Observed DO (mg/l) at 03297830

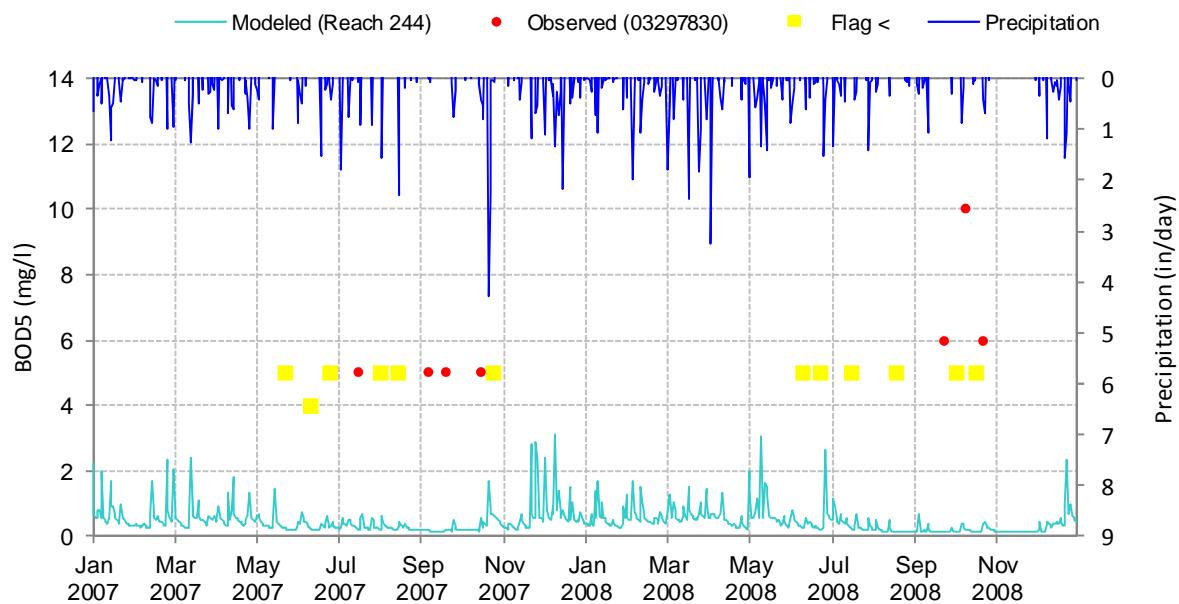


Figure B-4 Modeled vs. Observed BOD5 (mg/l) at 03297830

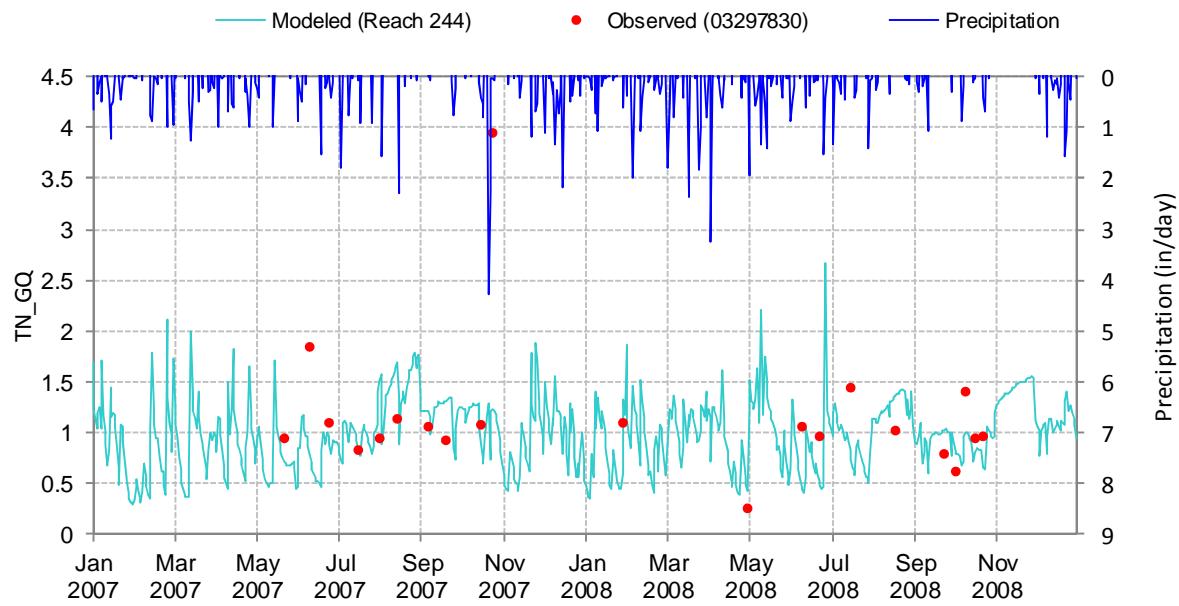


Figure B-5 Modeled vs. Observed TN\_GQ at 03297830

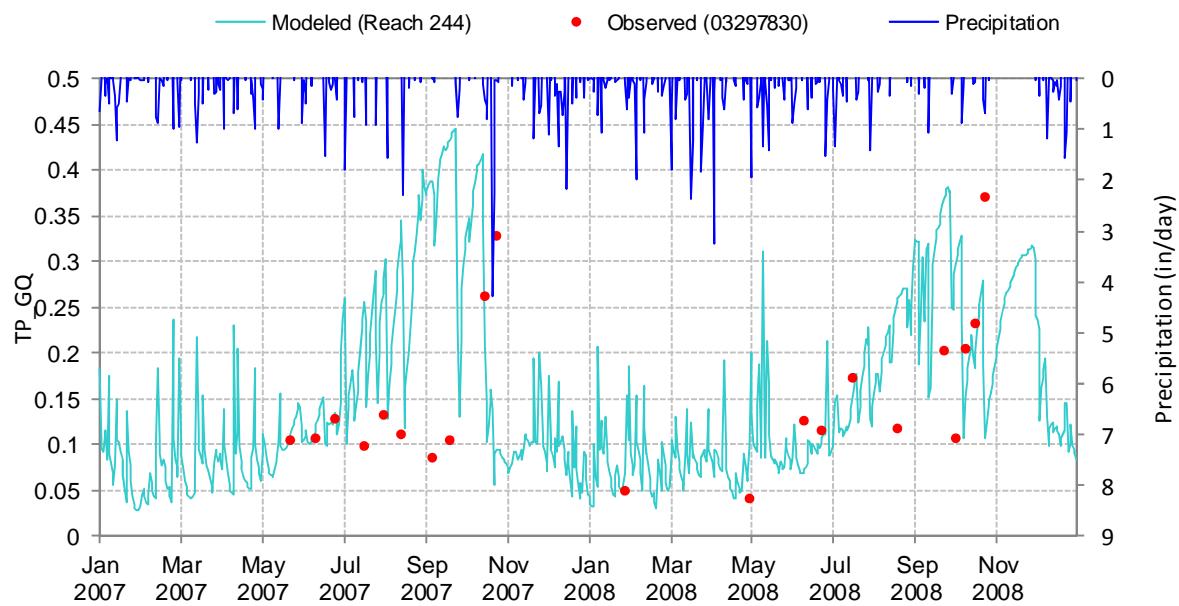


Figure B-6 Modeled vs. Observed TP\_GQ at 03297830

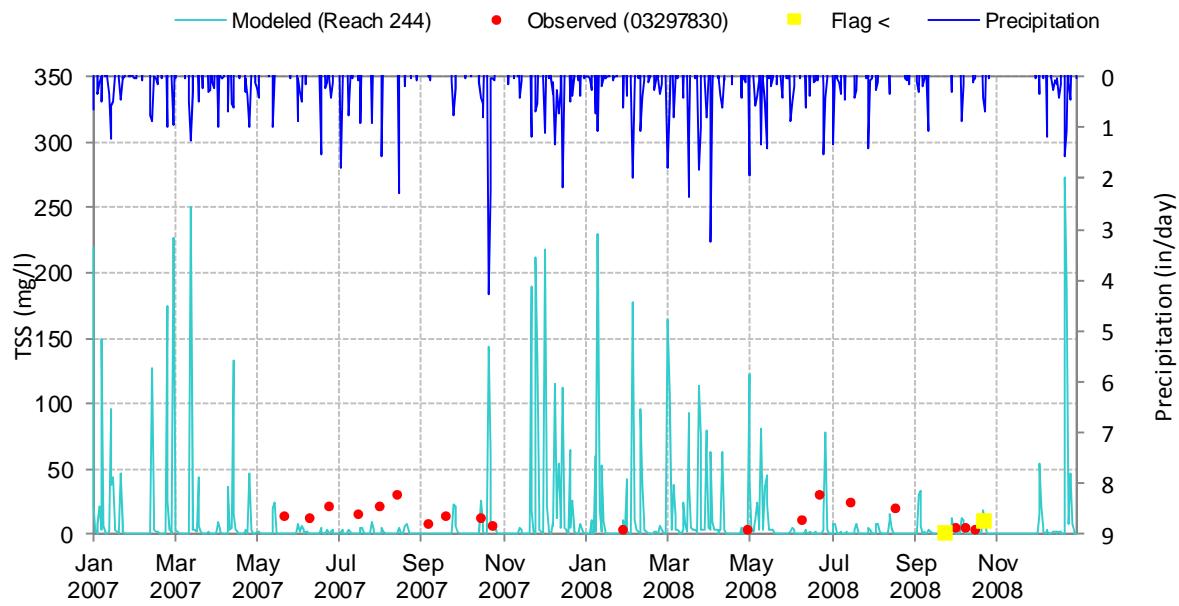


Figure B-7 Modeled vs. Observed TSS (mg/l) at 03297830

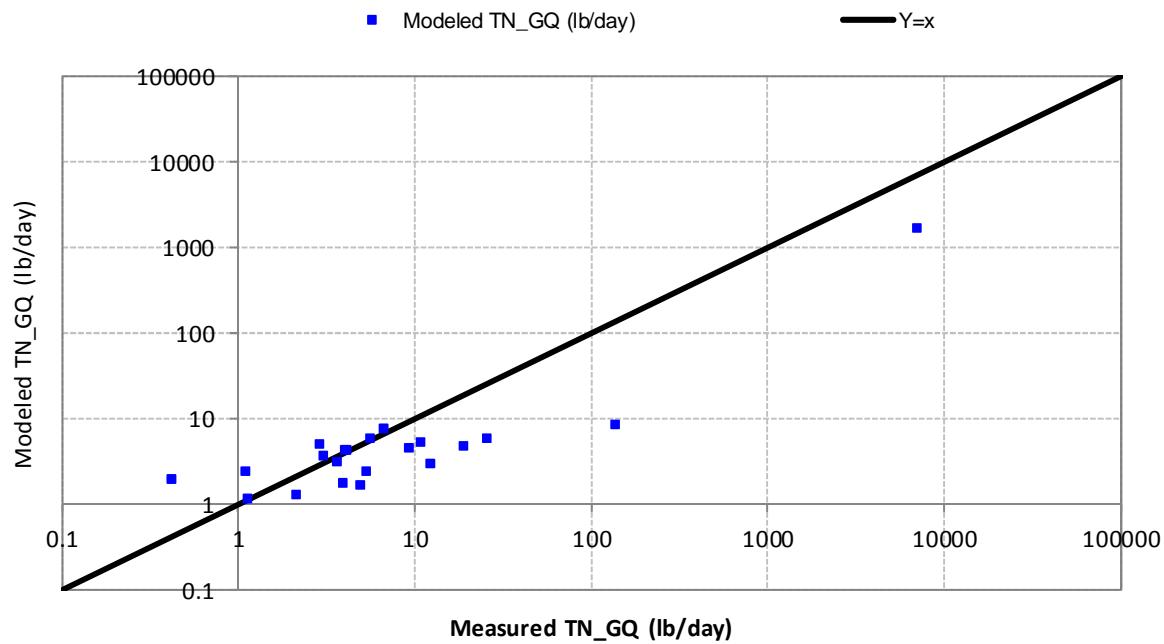


Figure B-8 Modeled vs. Observed Load TN\_GQ at 03297830

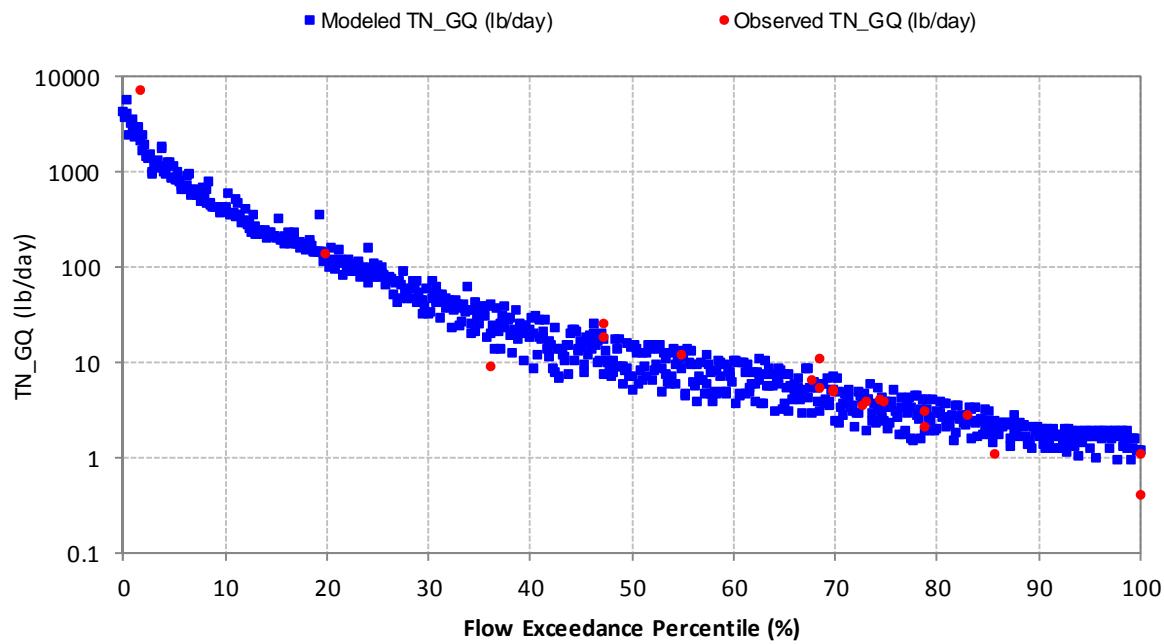


Figure B-9 Modeled vs. Observed Load TN\_GQ at 03297830

Table B-2 Modeled vs. Observed Load TN\_GQ at 03297830

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	56,205	115,920	-51.51	97,909	-42.59	
2008	69,740	85,810	-18.73	55,559	25.52	

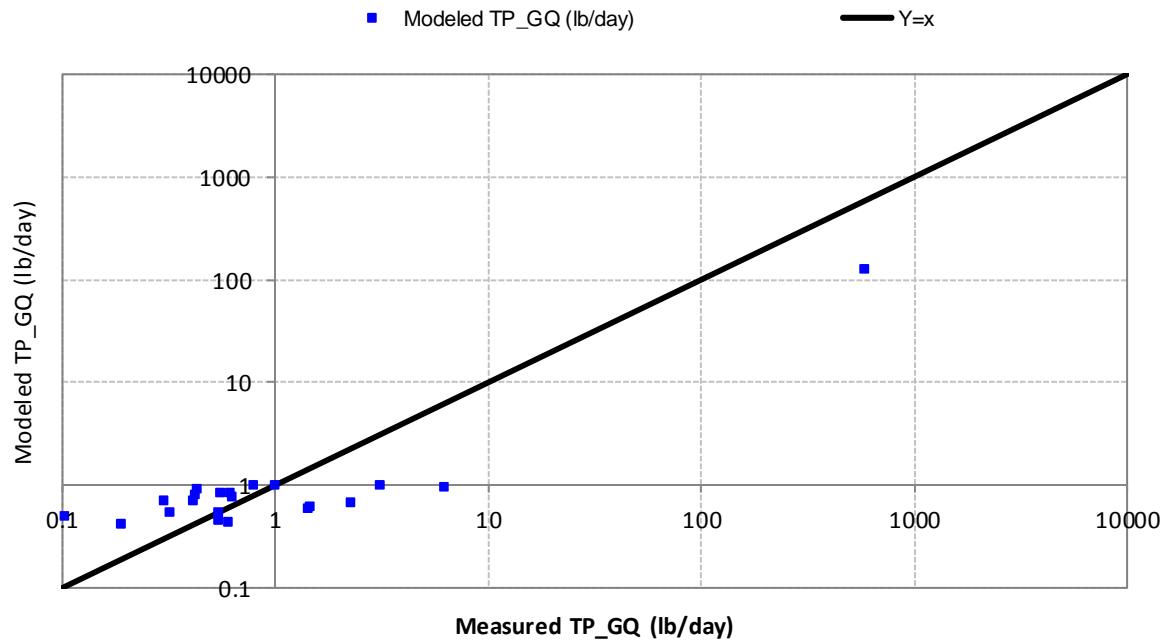


Figure B-10 Modeled vs. Observed Load TP\_GQ at 03297830

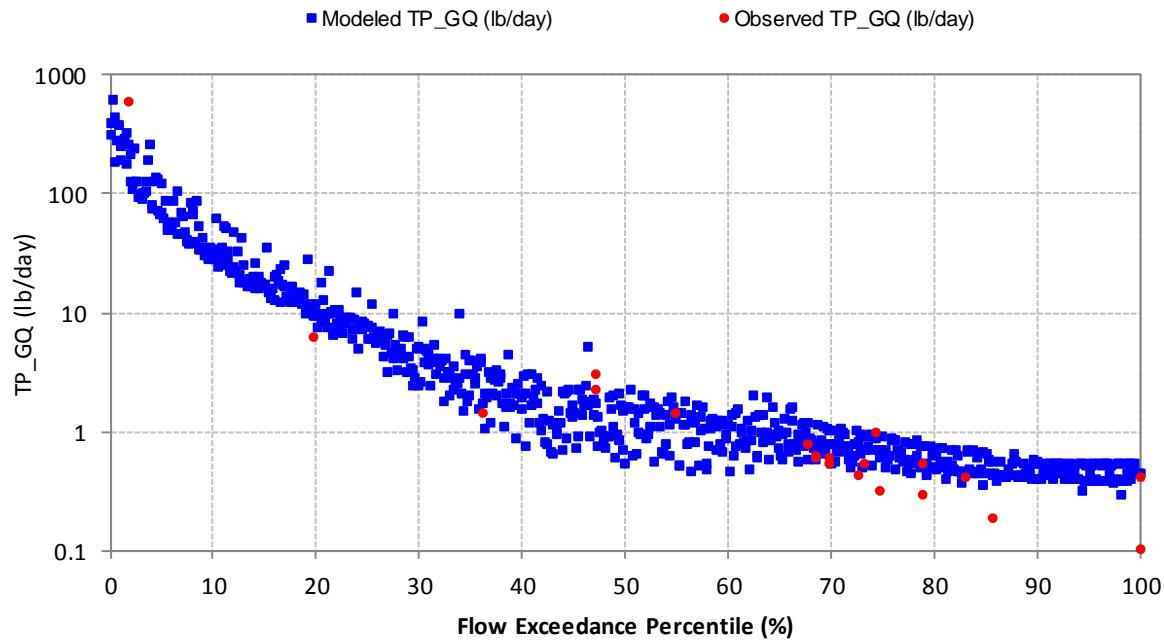


Figure B-11 Modeled vs. Observed Load TP\_GQ at 03297830

Table B-3 Modeled vs. Observed Load TP\_GQ at 03297830

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	5,331	11,010	-51.58	8,719	-38.86	
2008	6,533	6,323	3.32	5,145	26.98	

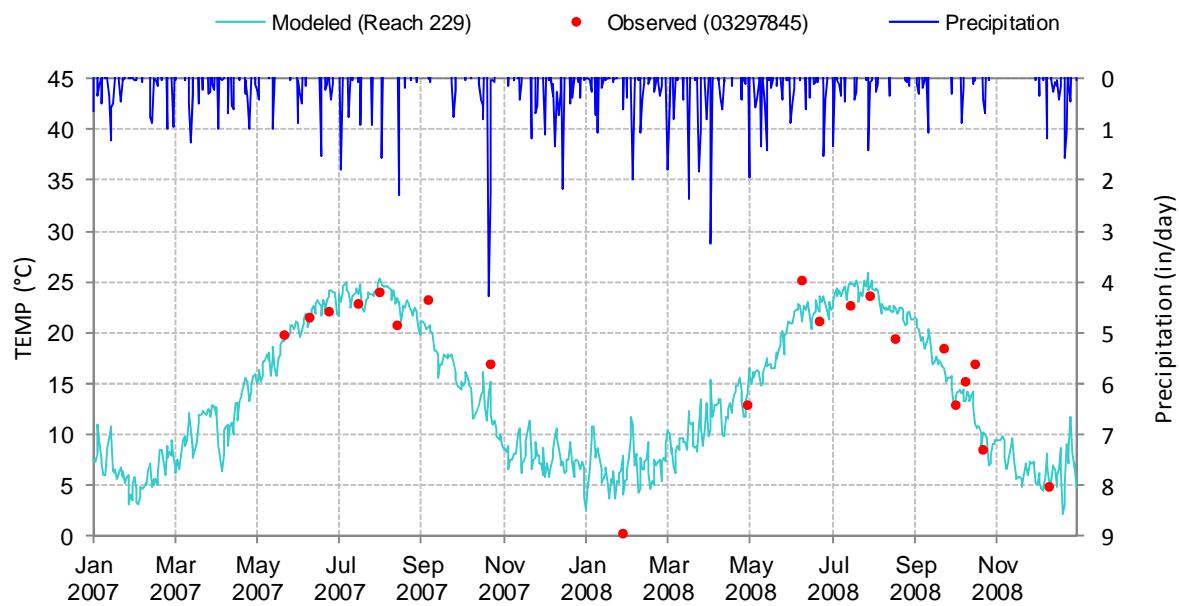
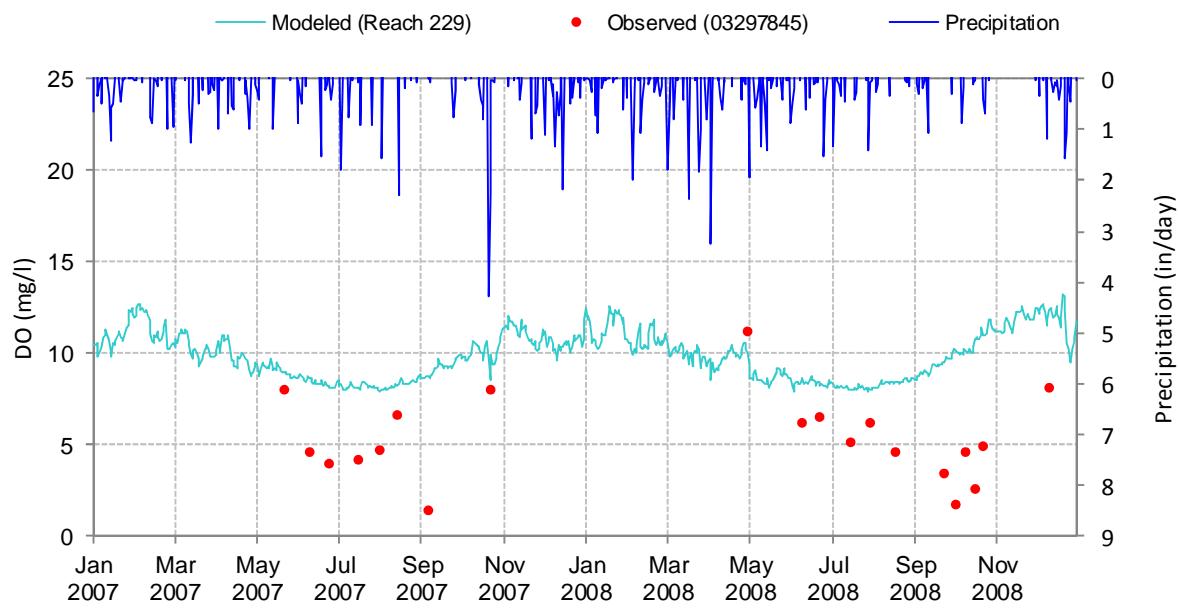
Figure B-12 Modeled vs. Observed TEMP ( $^{\circ}\text{C}$ ) at 03297845

Figure B-13 Modeled vs. Observed DO (mg/l) at 03297845

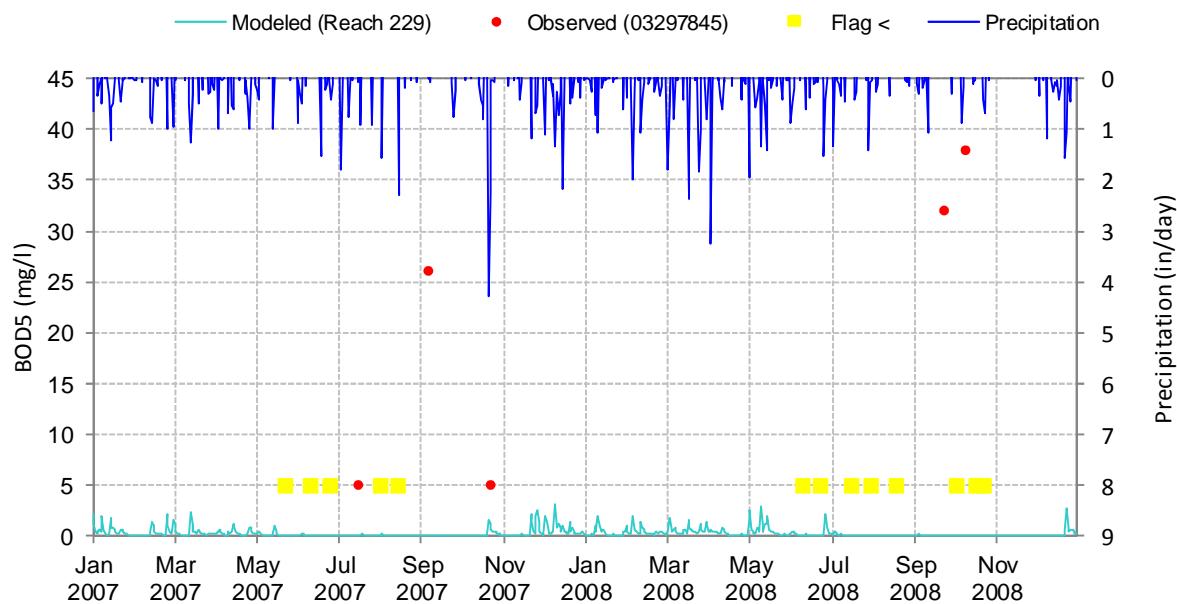


Figure B-14 Modeled vs. Observed BOD5 (mg/l) at 03297845

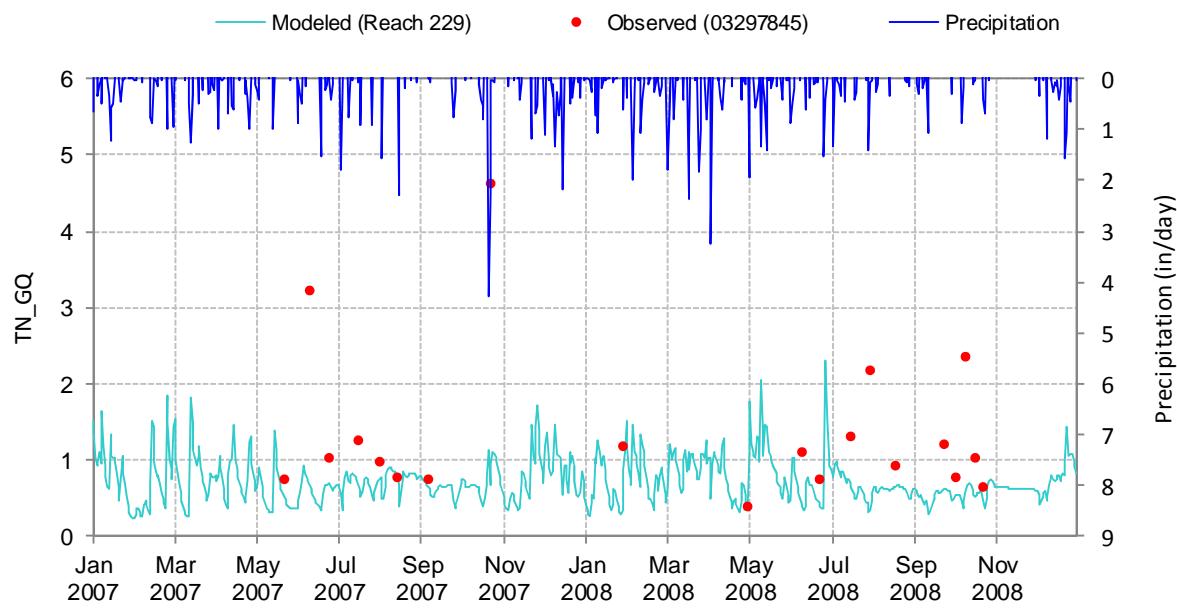


Figure B-15 Modeled vs. Observed TN\_GQ at 03297845

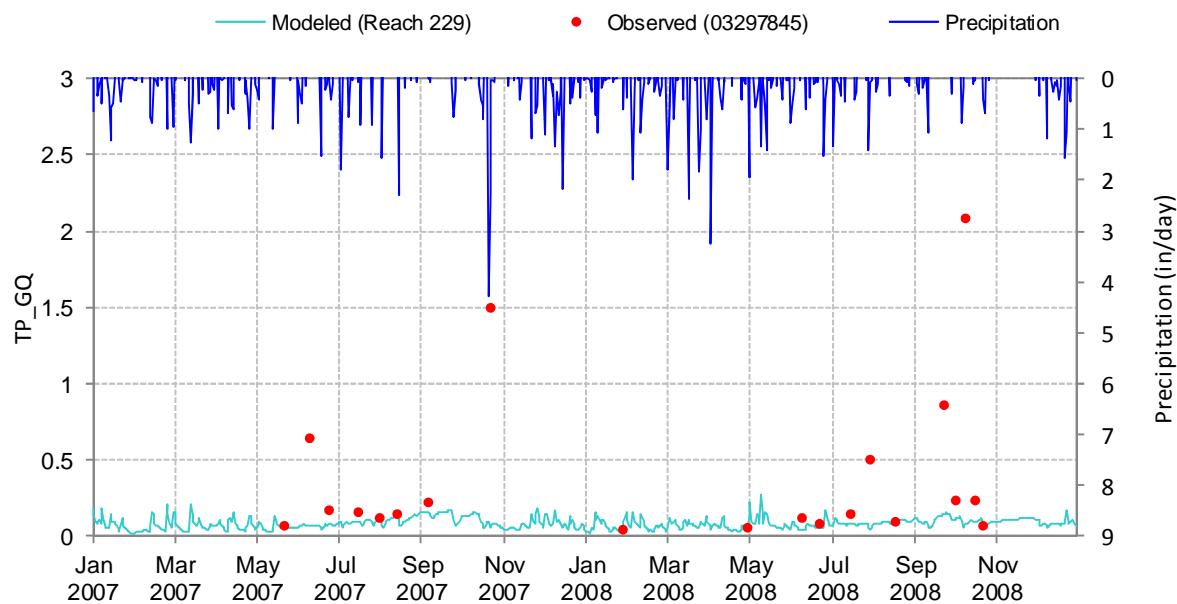


Figure B-16 Modeled vs. Observed TP\_GQ at 03297845

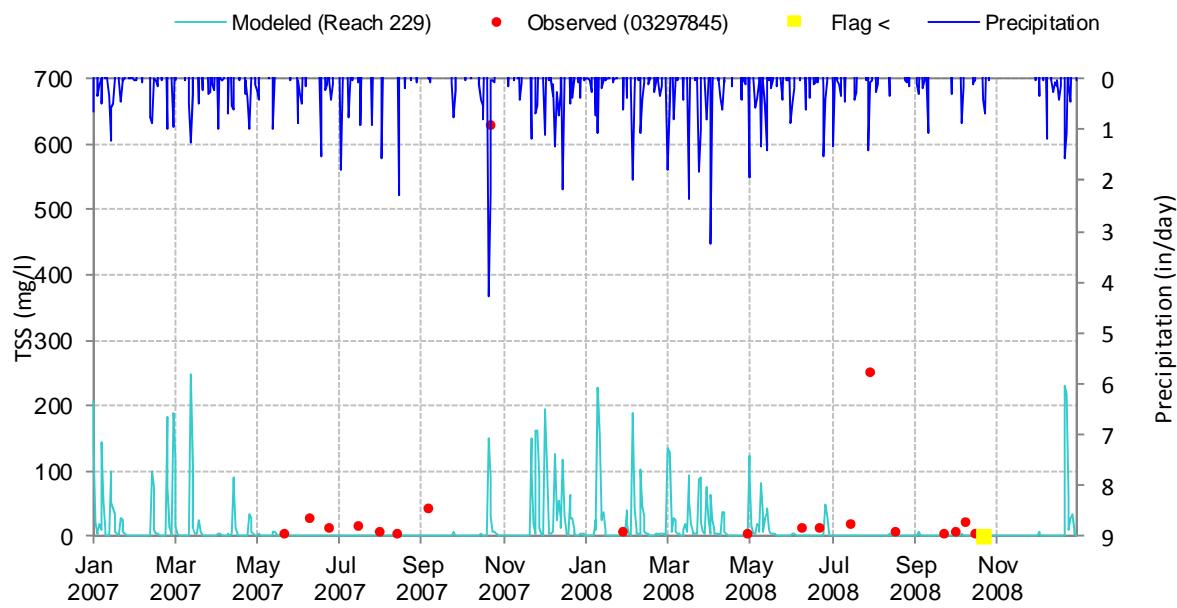


Figure B-17 Modeled vs. Observed TSS (mg/l) at 03297845

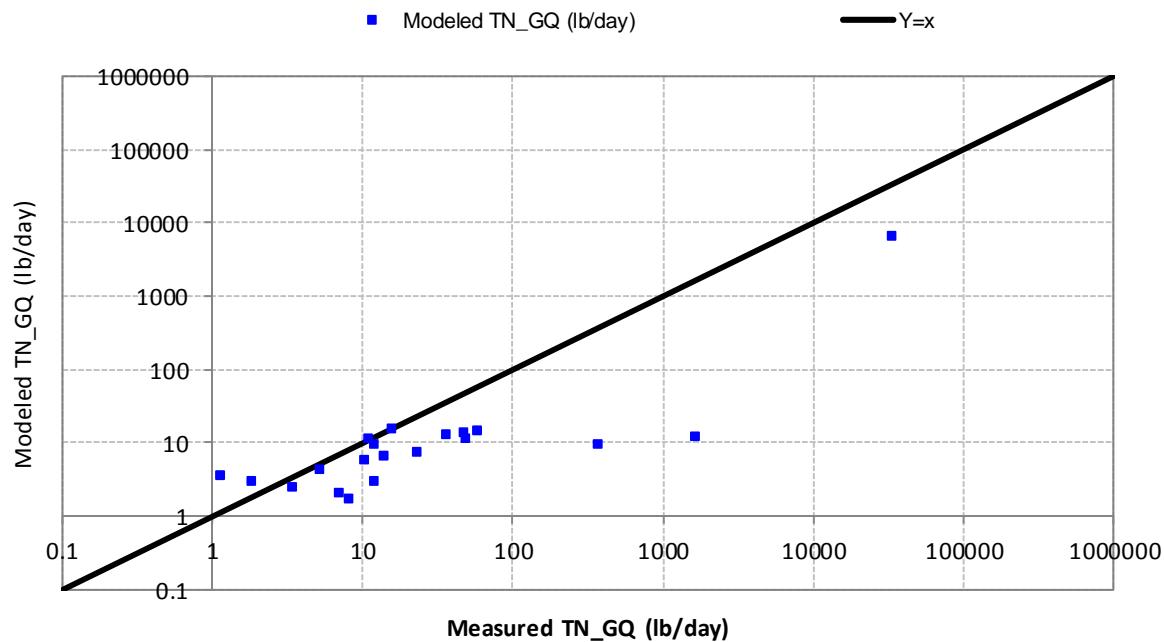


Figure B-18 Modeled vs. Observed Load TN\_GQ at 03297845

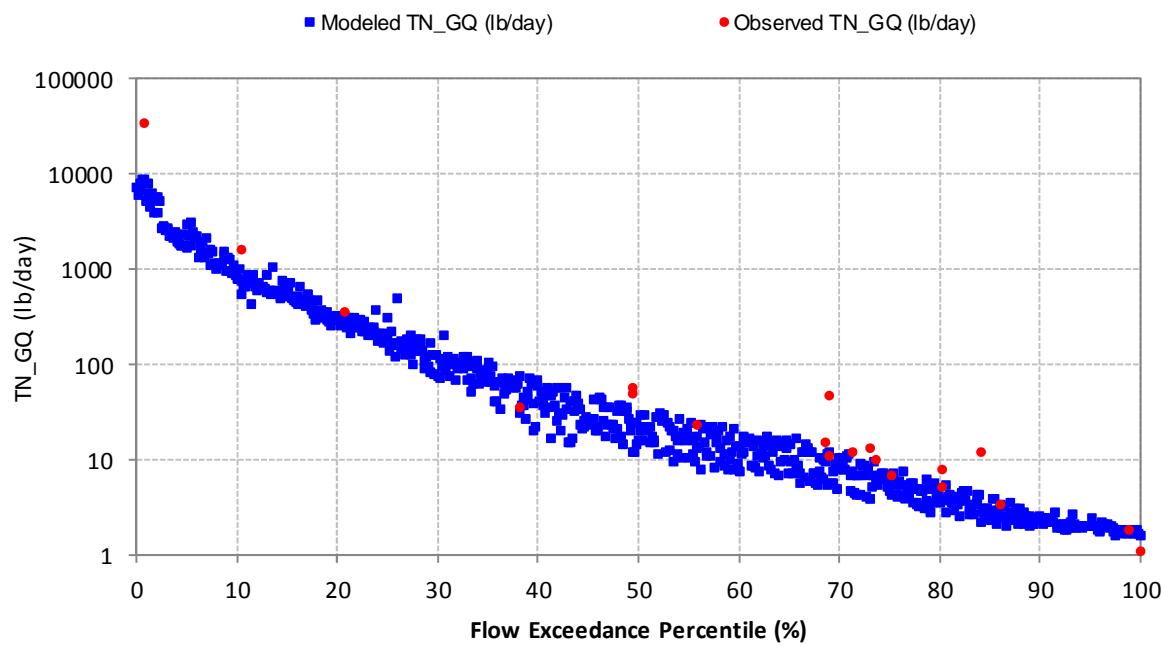


Figure B-19 Modeled vs. Observed Load TN\_GQ at 03297845

Table B-4 Modeled vs. Observed Load TN\_GQ at 03297845

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	120,794	333,153	-63.74	259,545	-53.46	
2008	156,162	232,926	-32.96	156,763	-0.38	

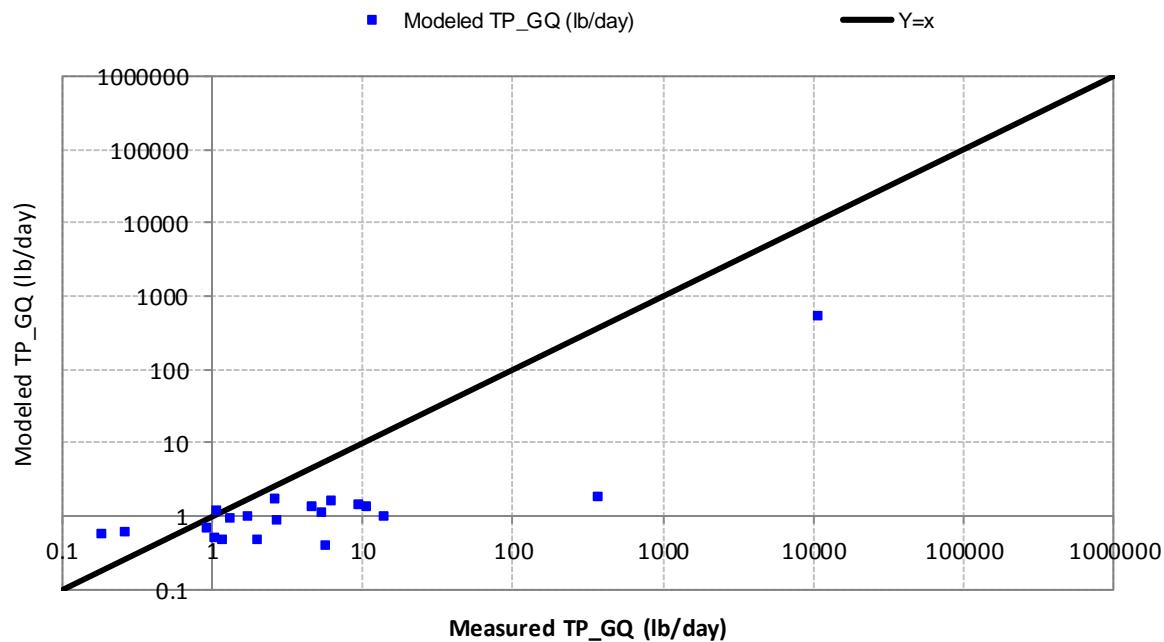


Figure B-20 Modeled vs. Observed Load TP\_GQ at 03297845

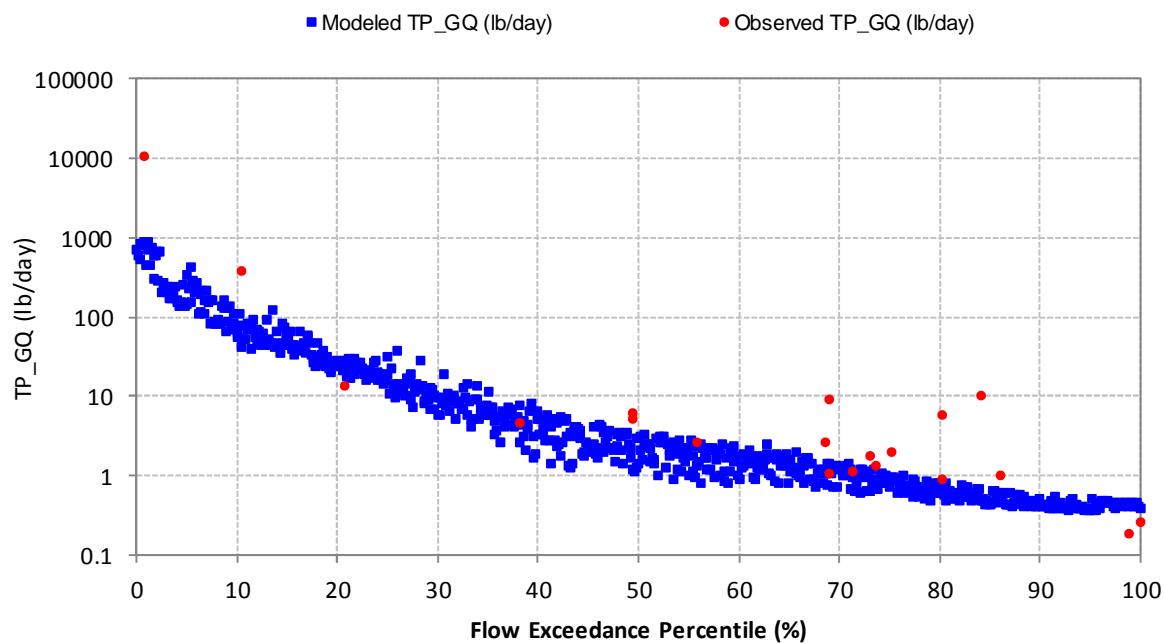


Figure B-21 Modeled vs. Observed Load TP\_GQ at 03297845

Table B-5 Modeled vs. Observed Load TP\_GQ at 03297845

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	11,523	93,702	-87.7	62,314	-81.51
2008	15,137	28,701	-47.26	15,421	-1.84

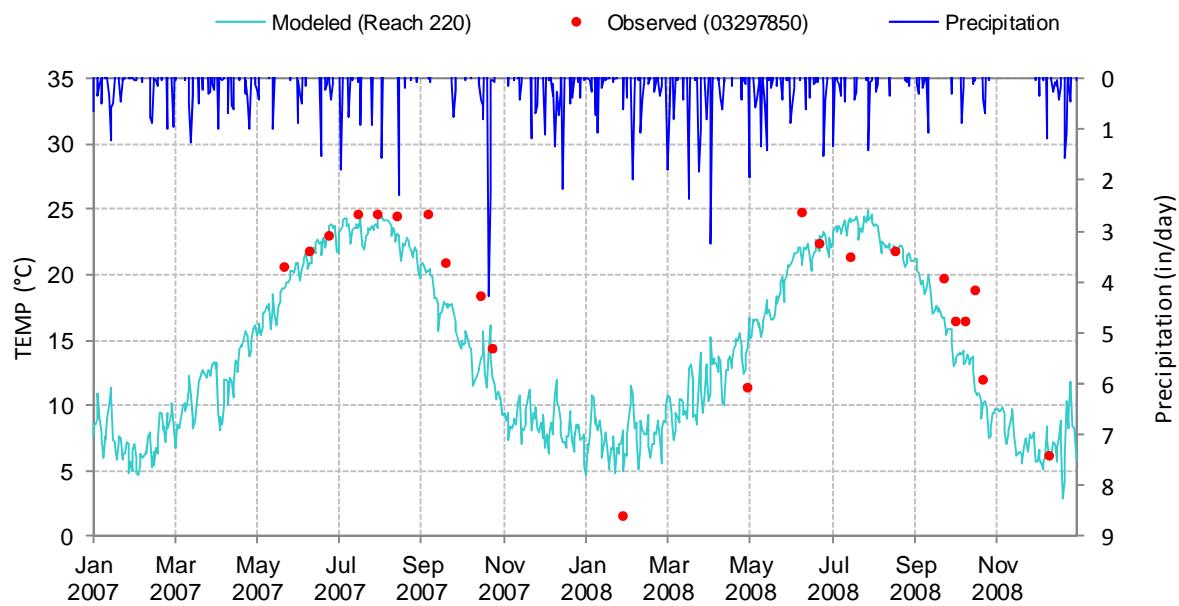


Figure B-22 Modeled vs. Observed TEMP (°C) at 03297850

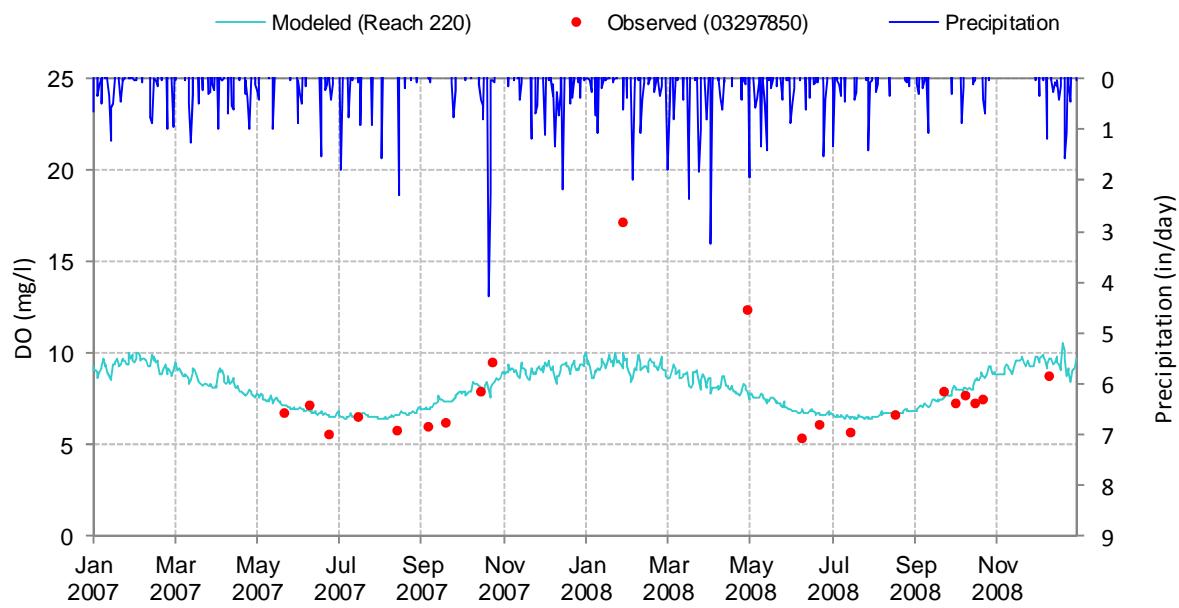


Figure B-23 Modeled vs. Observed DO (mg/l) at 03297850

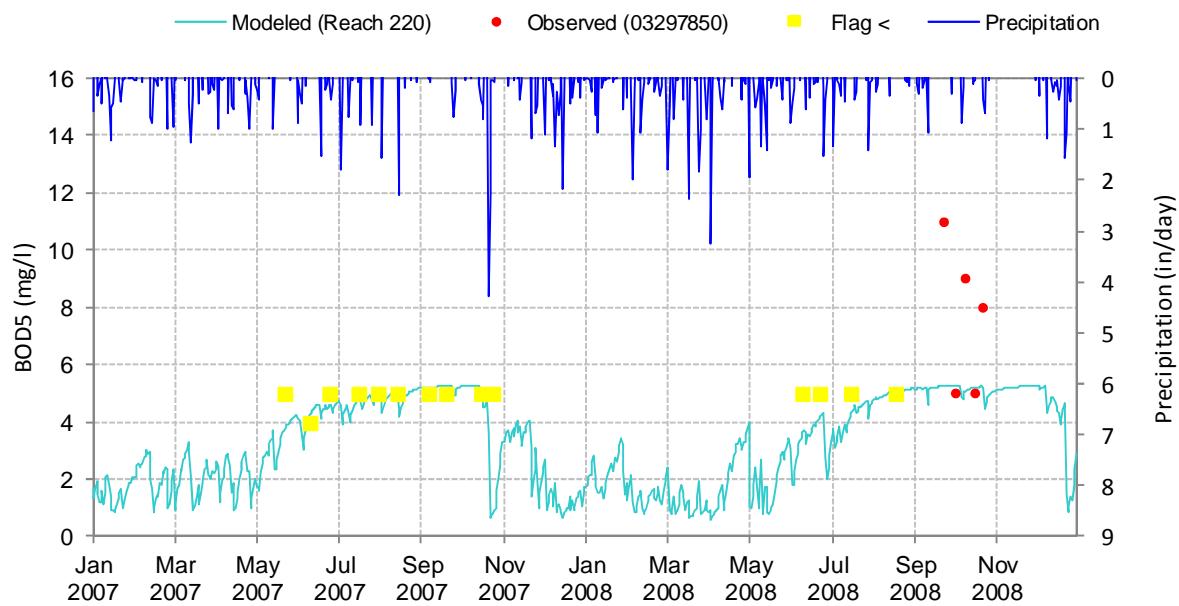


Figure B-24 Modeled vs. Observed BOD5 (mg/l) at 03297850

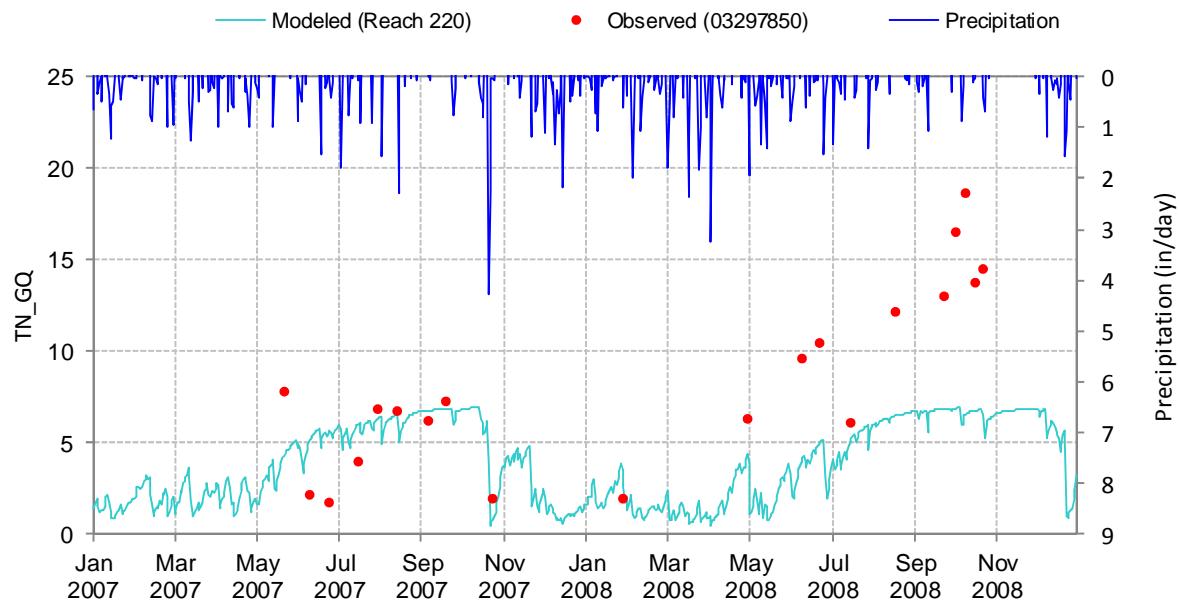


Figure B-25 Modeled vs. Observed TN\_GQ at 03297850

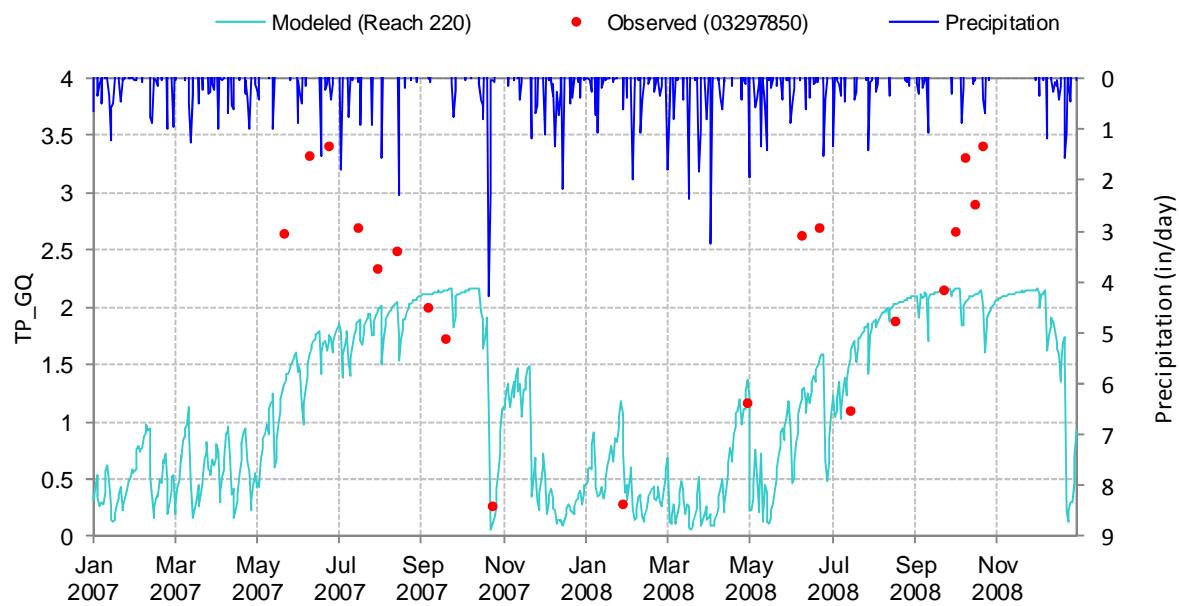


Figure B-26 Modeled vs. Observed TP\_GQ at 03297850

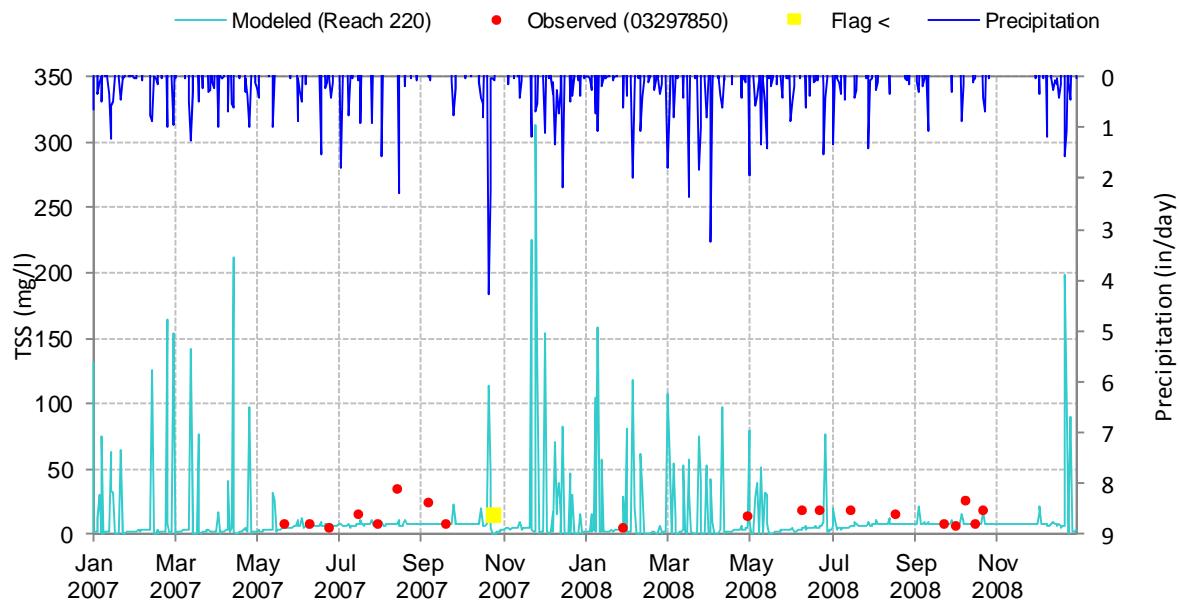


Figure B-27 Modeled vs. Observed TSS (mg/l) at 03297850

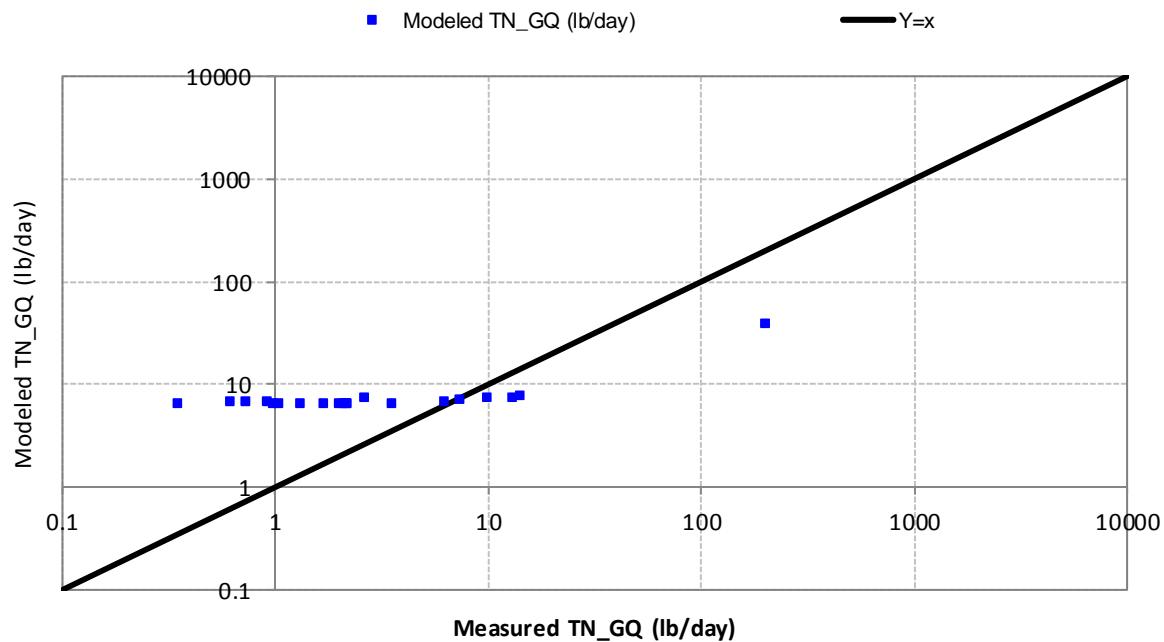


Figure B-28 Modeled vs. Observed Load TN\_GQ at 03297850

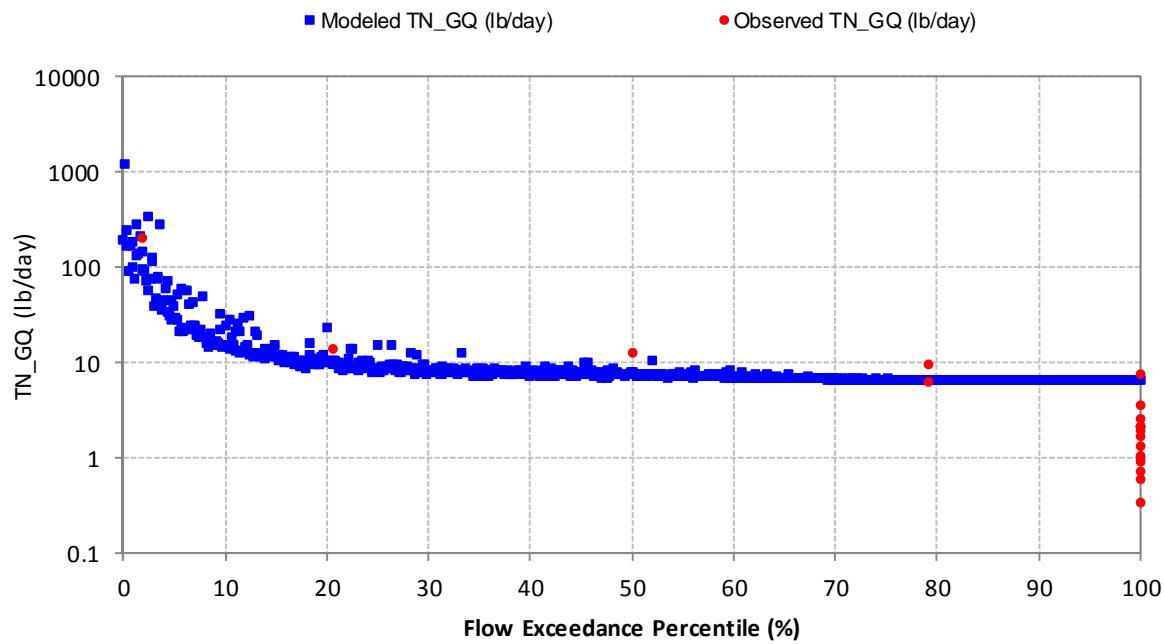


Figure B-29 Modeled vs. Observed Load TN\_GQ at 03297850

Table B-6 Modeled vs. Observed Load TN\_GQ at 03297850

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	5,596		17,909	-68.75	17,036	-67.15
2008	5,978		13,830	-56.78	20,554	-70.92

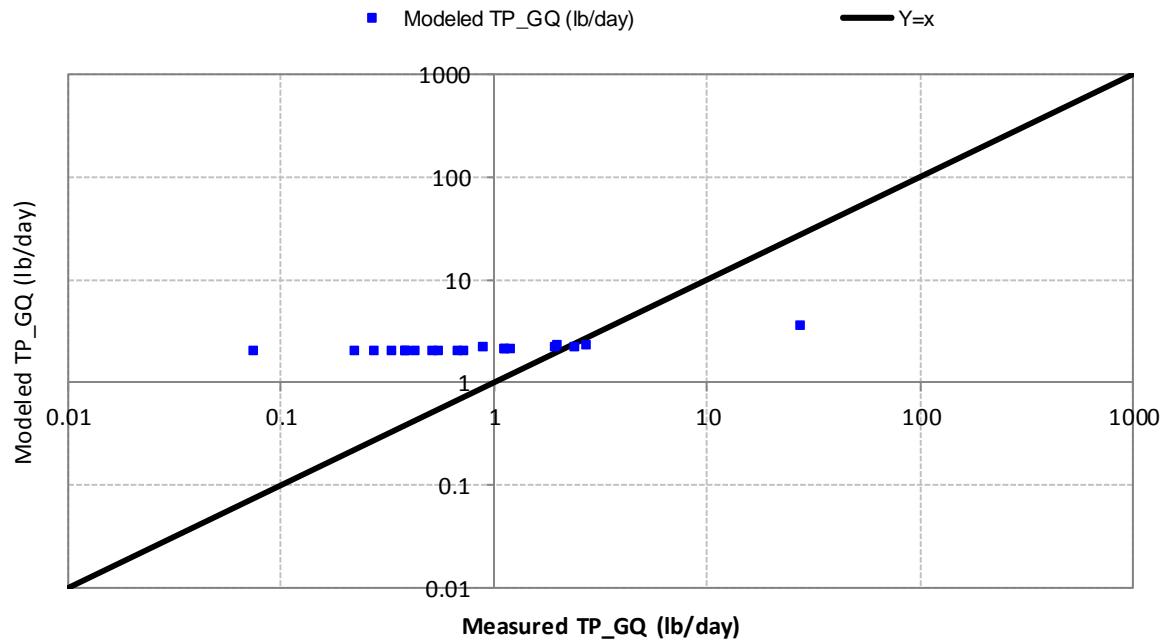


Figure B-30 Modeled vs. Observed Load TP\_GQ at 03297850

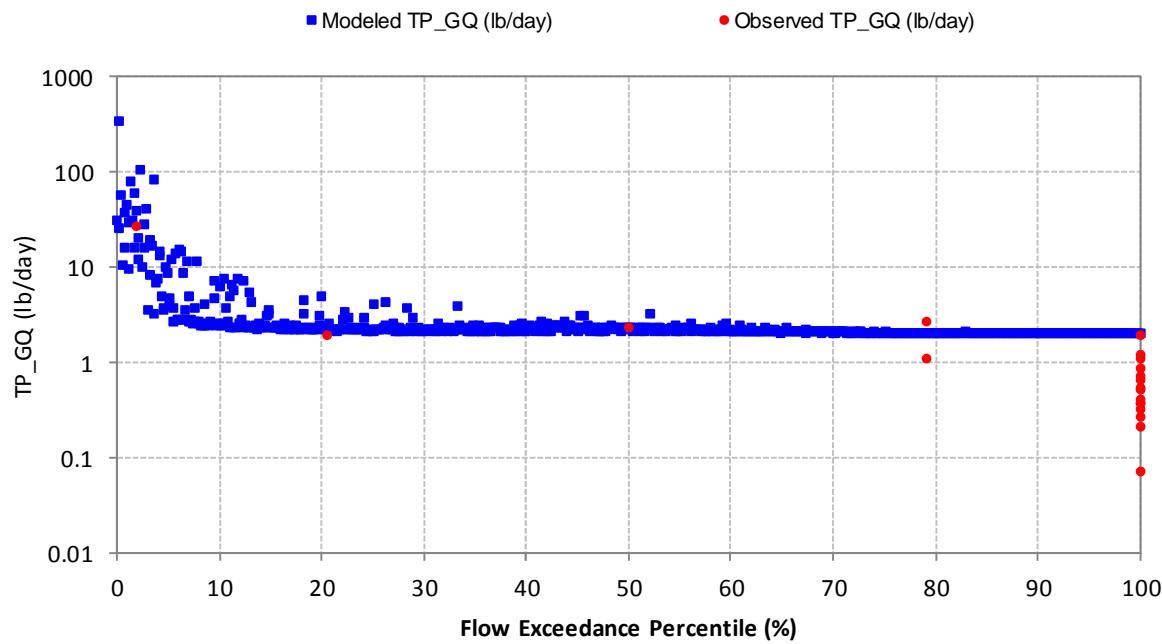


Figure B-31 Modeled vs. Observed Load TP\_GQ at 03297850

Table B-7 Modeled vs. Observed Load TP\_GQ at 03297850

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	1,430	5,669	-74.77	5,421	-73.61
2008	1,523	2,460	-38.08	3,927	-61.22

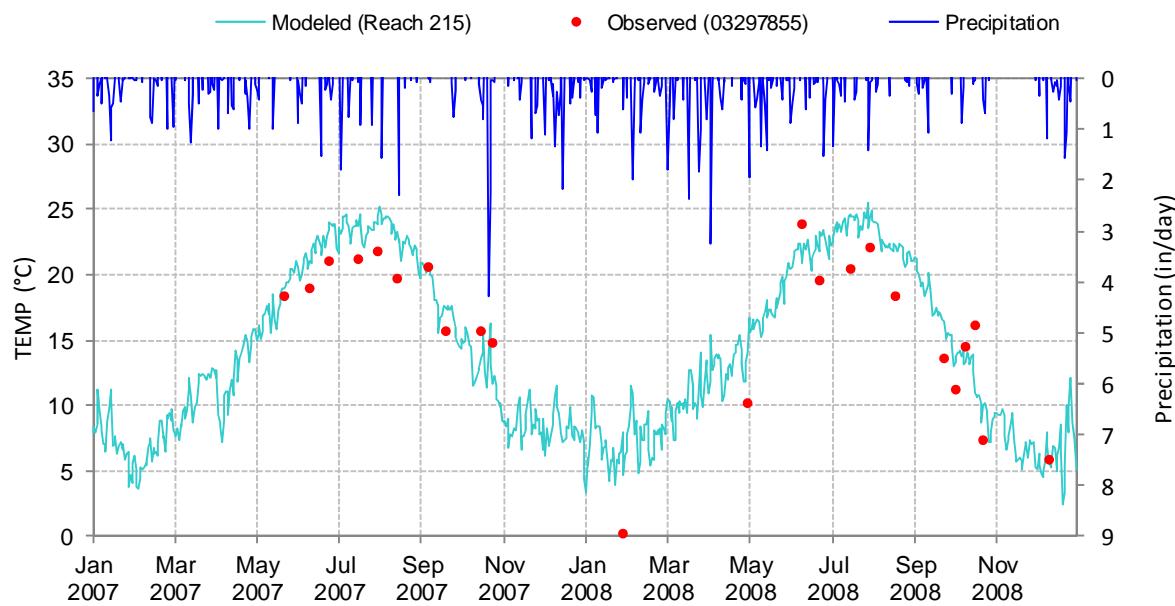


Figure B-32 Modeled vs. Observed TEMP (°C) at 03297855

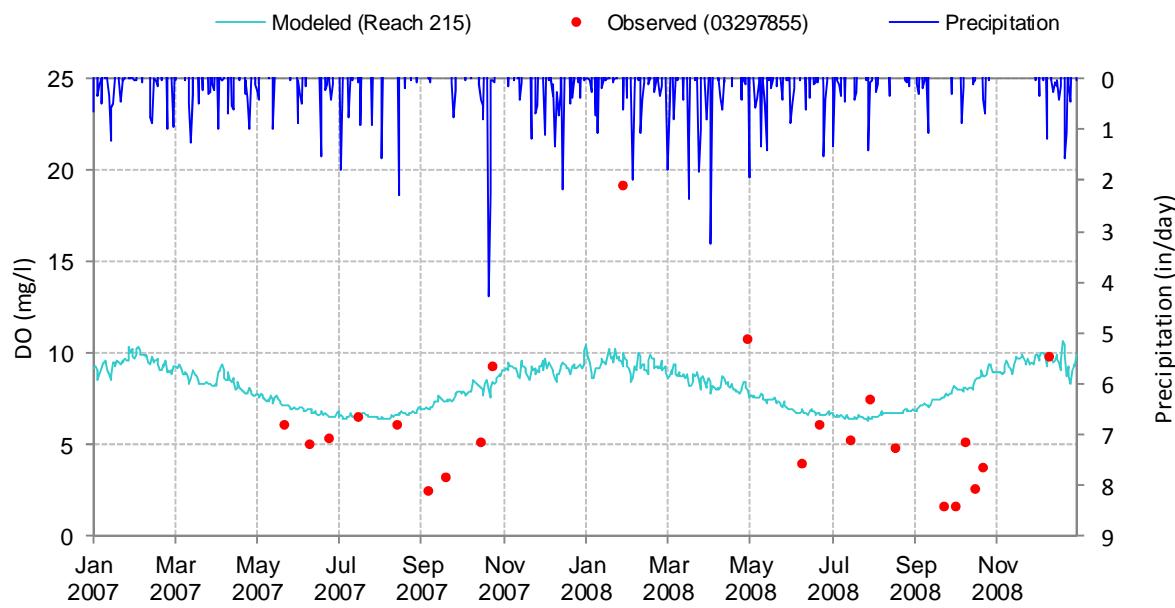


Figure B-33 Modeled vs. Observed DO (mg/l) at 03297855

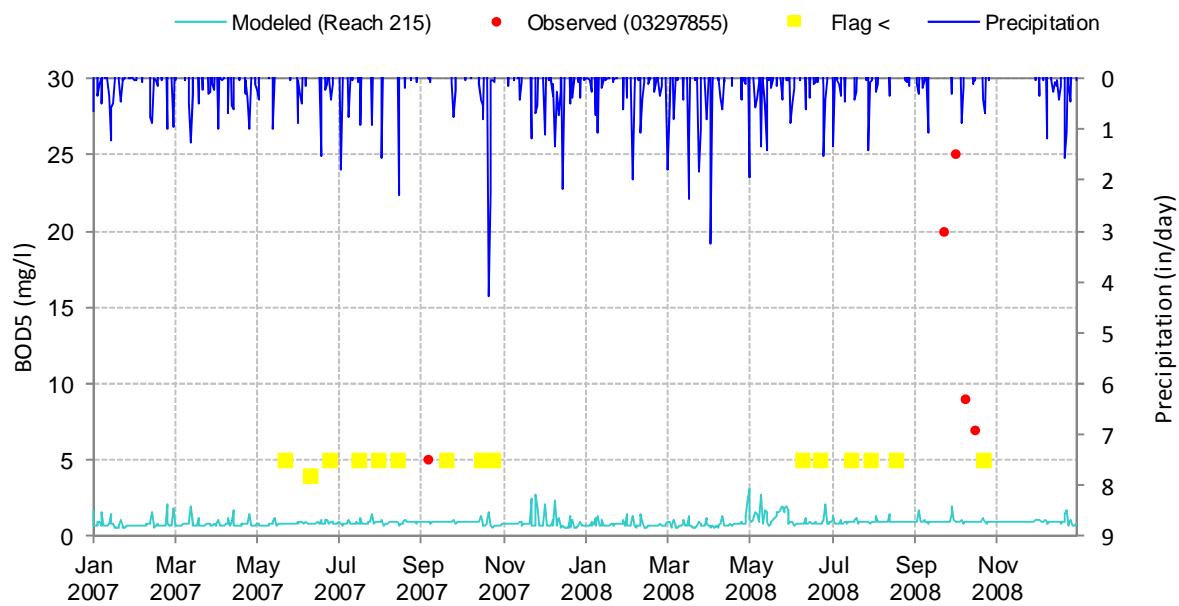


Figure B-34 Modeled vs. Observed BOD5 (mg/l) at 03297855

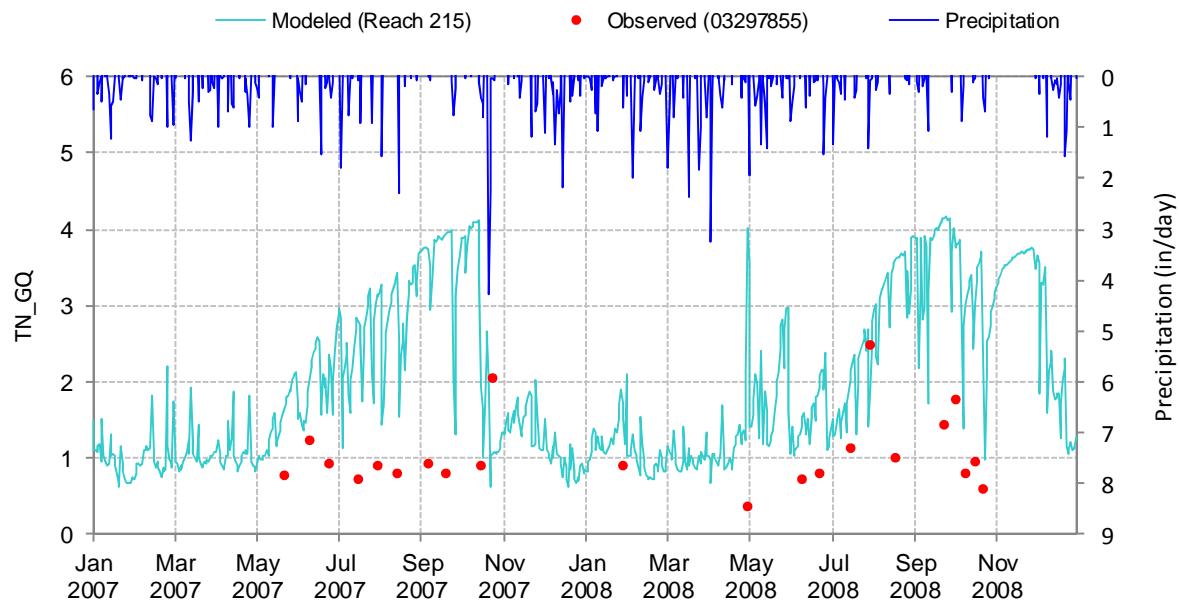


Figure B-35 Modeled vs. Observed TN\_GQ at 03297855

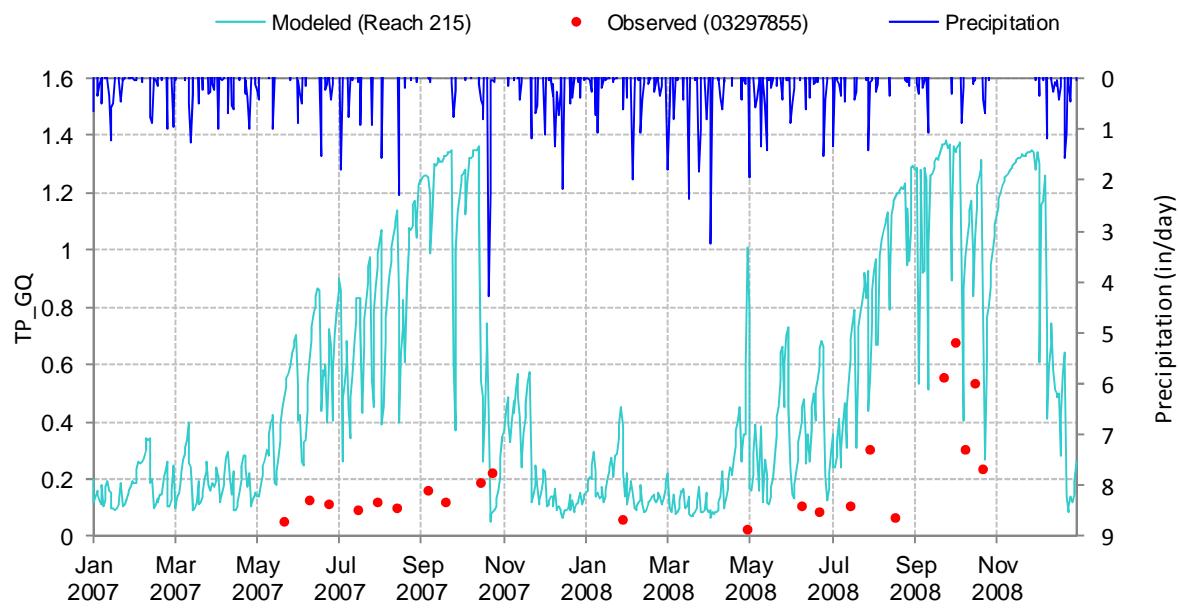


Figure B-36 Modeled vs. Observed TP\_GQ at 03297855

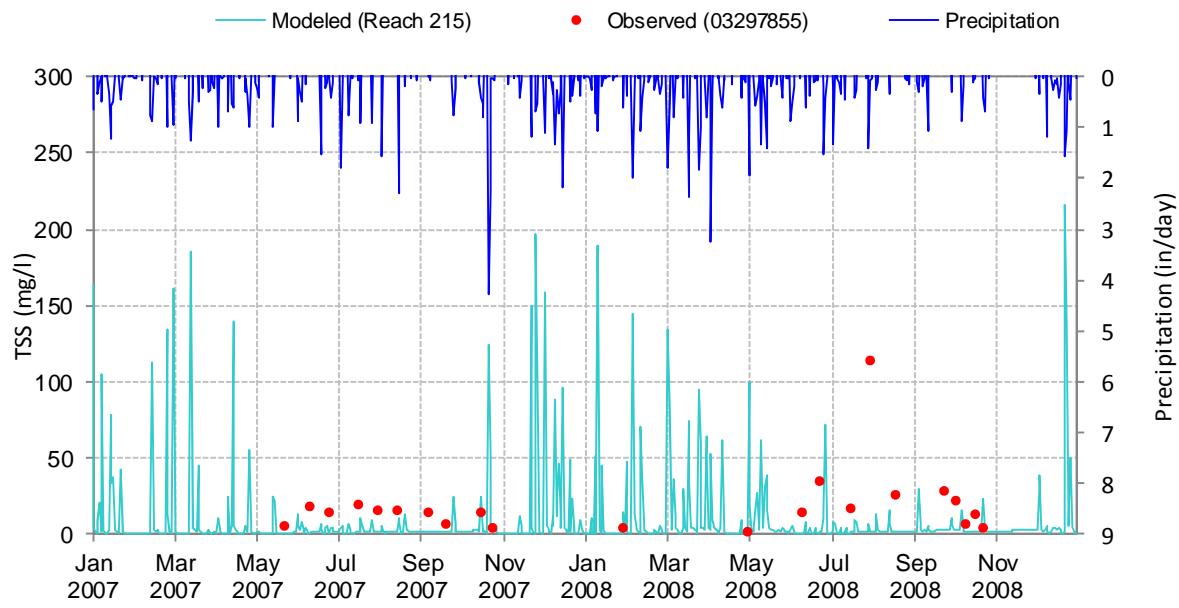


Figure B-37 Modeled vs. Observed TSS (mg/l) at 03297855

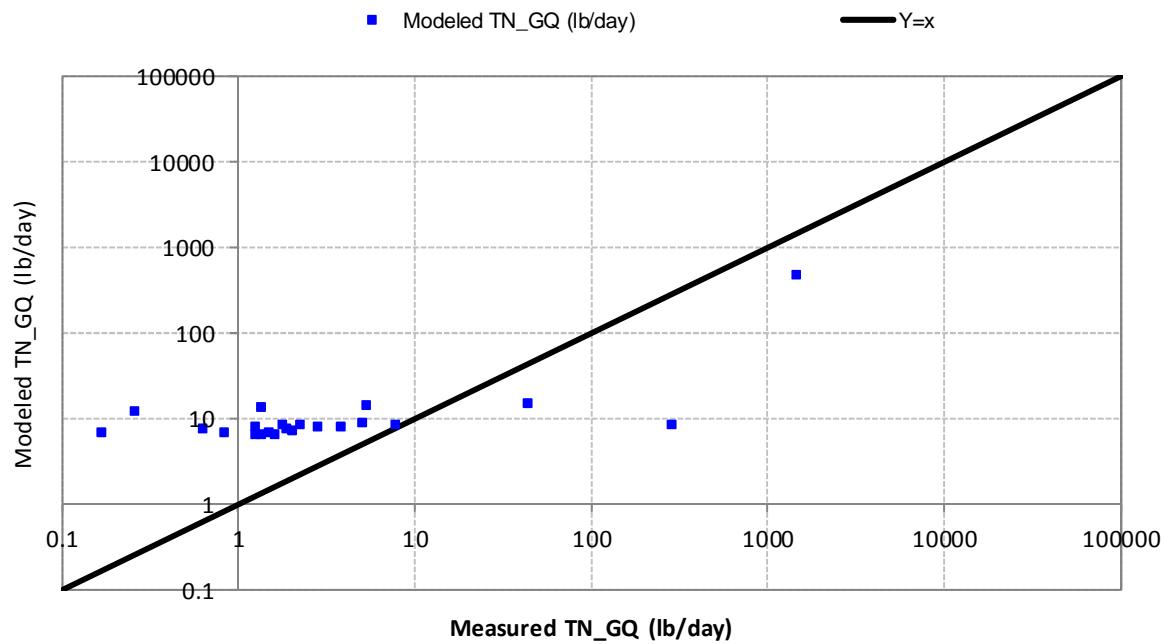


Figure B-38 Modeled vs. Observed Load TN\_GQ at 03297855

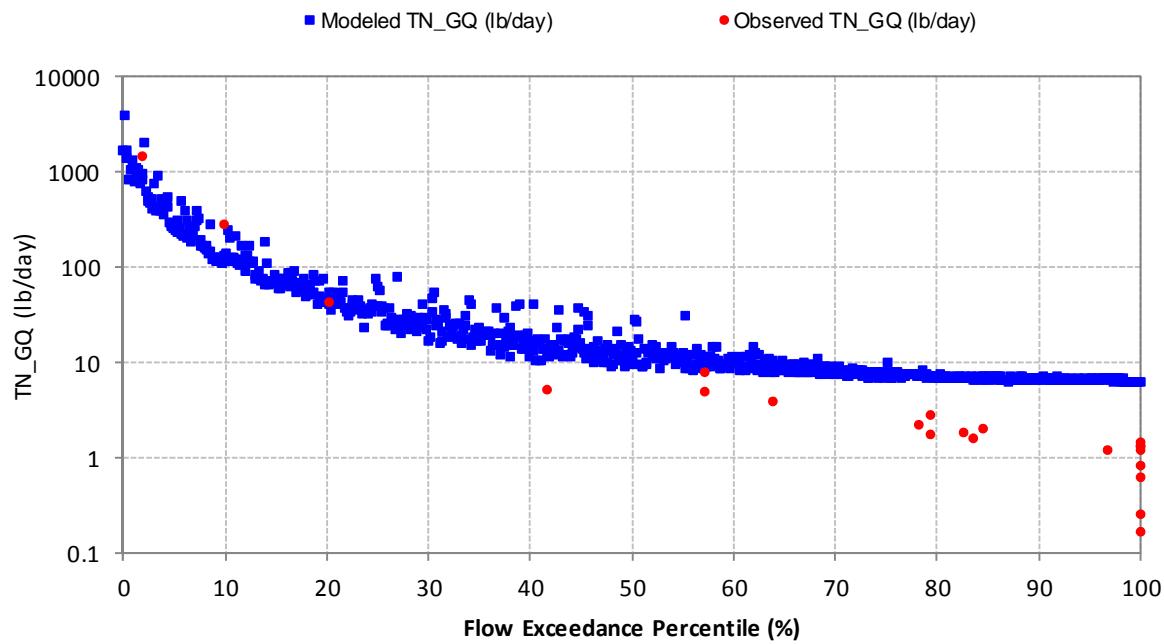


Figure B-39 Modeled vs. Observed Load TN\_GQ at 03297855

Table B-8 Modeled vs. Observed Load TN\_GQ at 03297855

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	24,031	27,720	-13.31	24,834	-3.23	
2008	29,968	25,480	17.62	19,506	53.64	

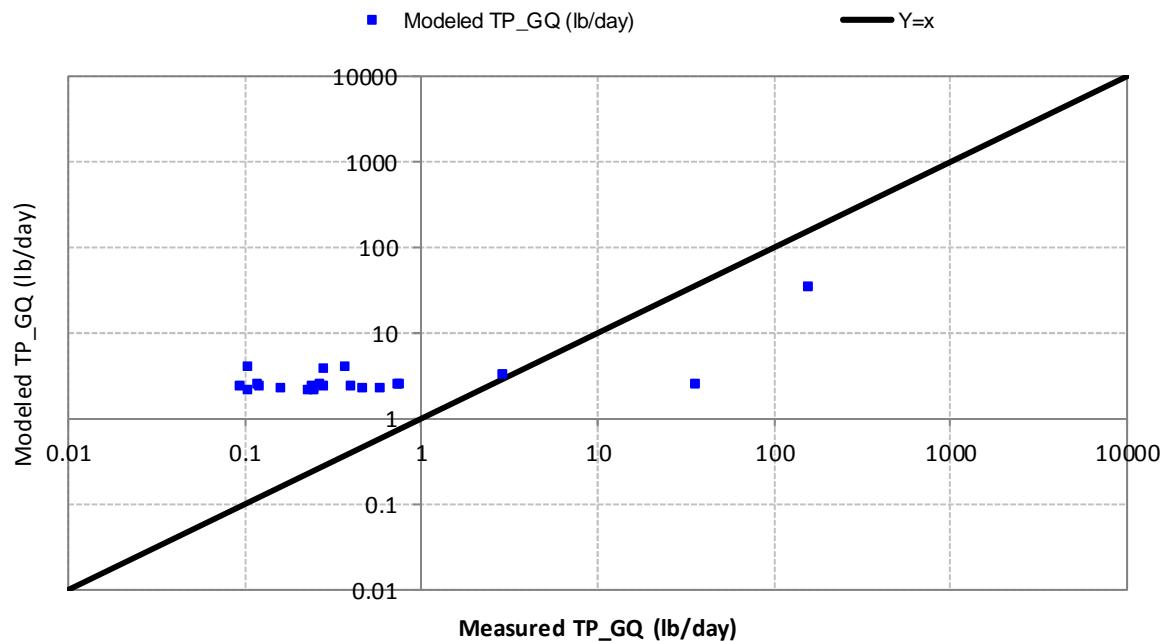


Figure B-40 Modeled vs. Observed Load TP\_GQ at 03297855

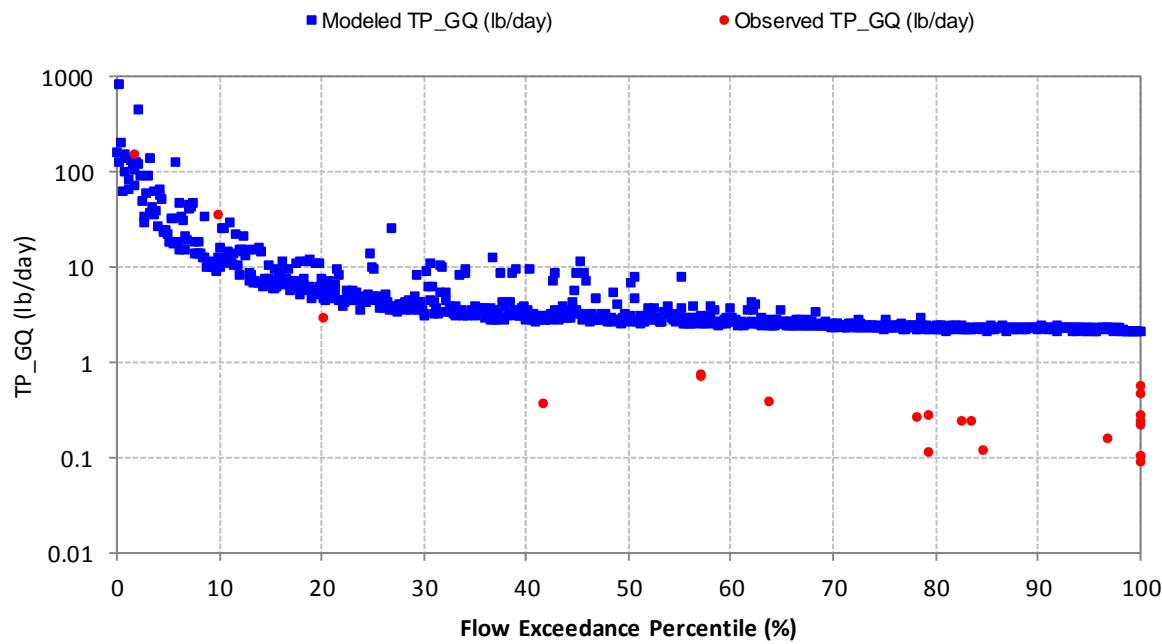


Figure B-41 Modeled vs. Observed Load TP\_GQ at 03297855

Table B-9 Modeled vs. Observed Load TP\_GQ at 03297855

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	3,484	2,701	29	2,179	59.88	
2008	4,142	2,199	88.3	1,801	129.99	

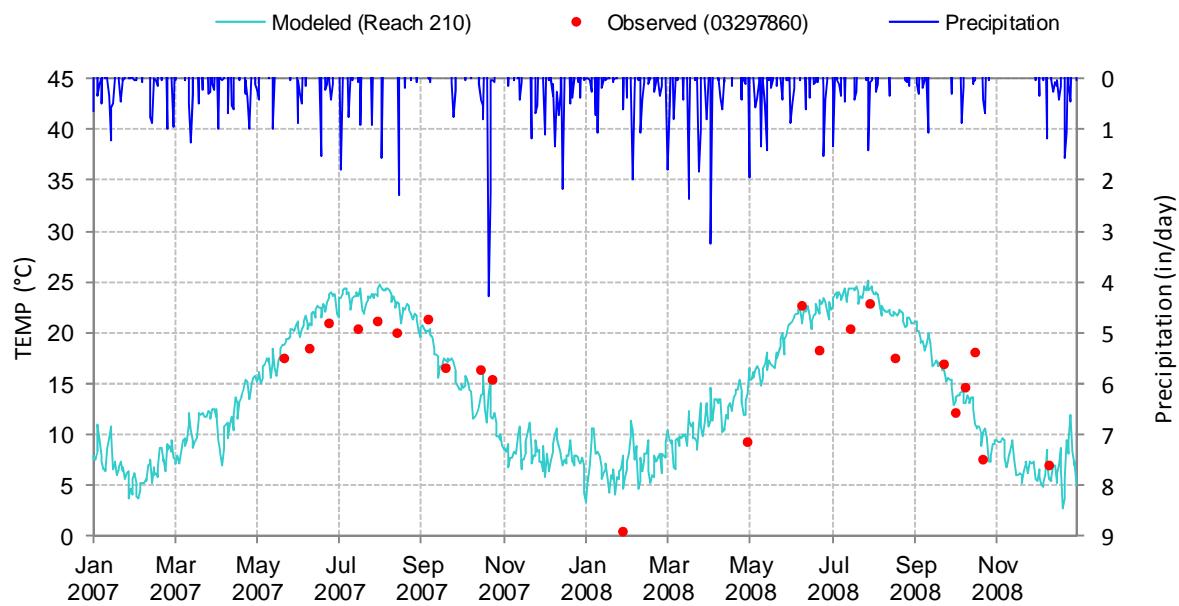


Figure B-42 Modeled vs. Observed TEMP (°C) at 03297860

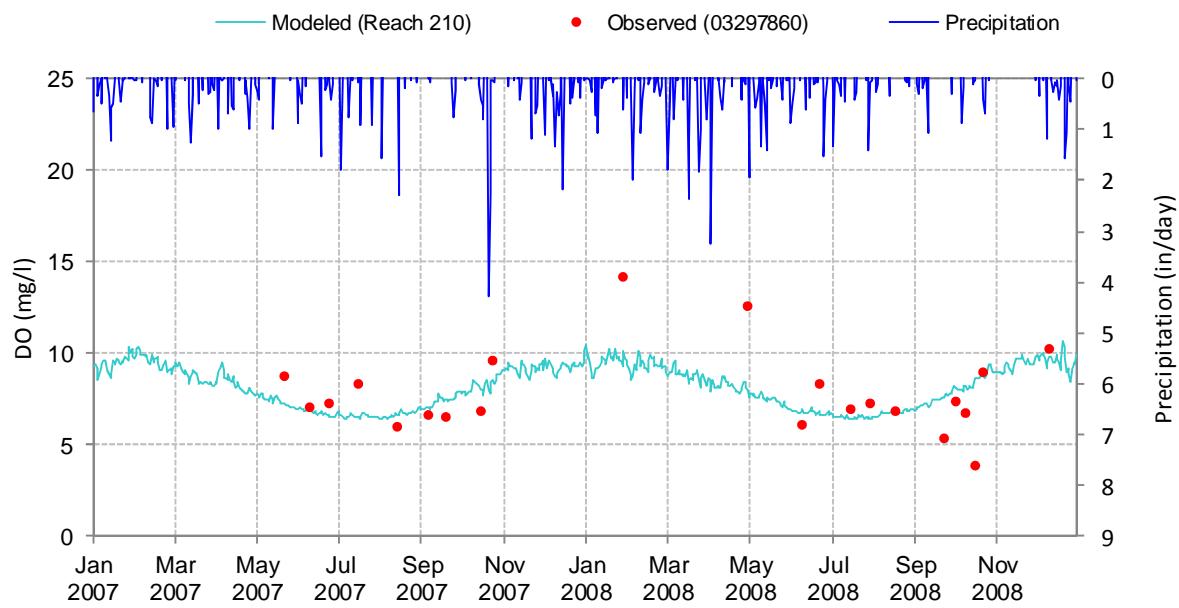


Figure B-43 Modeled vs. Observed DO (mg/l) at 03297860

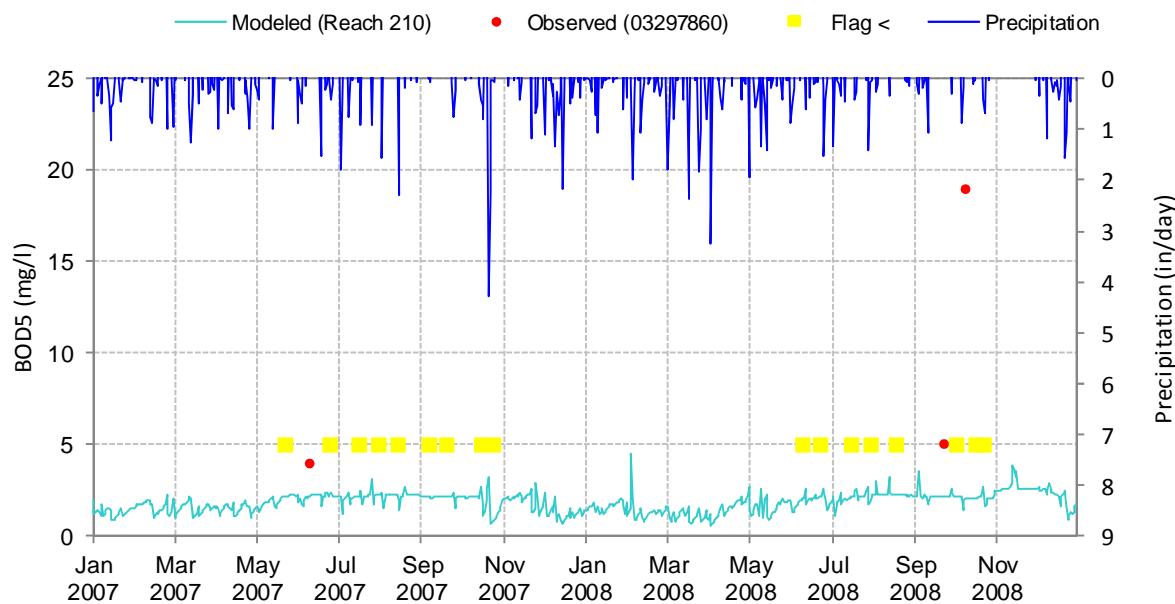


Figure B-44 Modeled vs. Observed BOD5 (mg/l) at 03297860

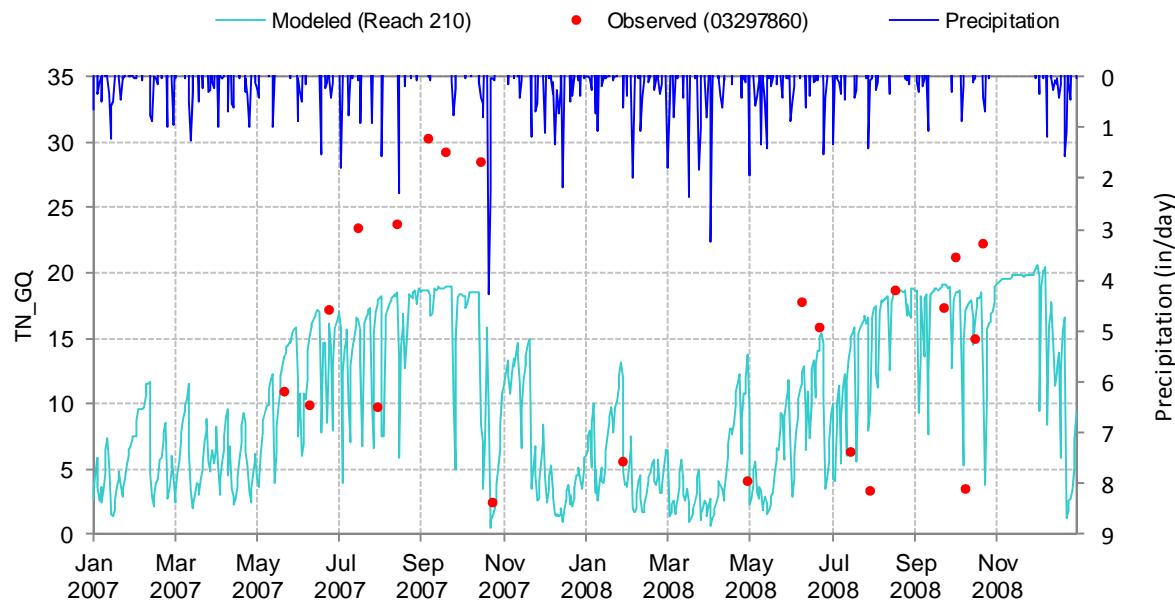


Figure B-45 Modeled vs. Observed TN\_GQ at 03297860

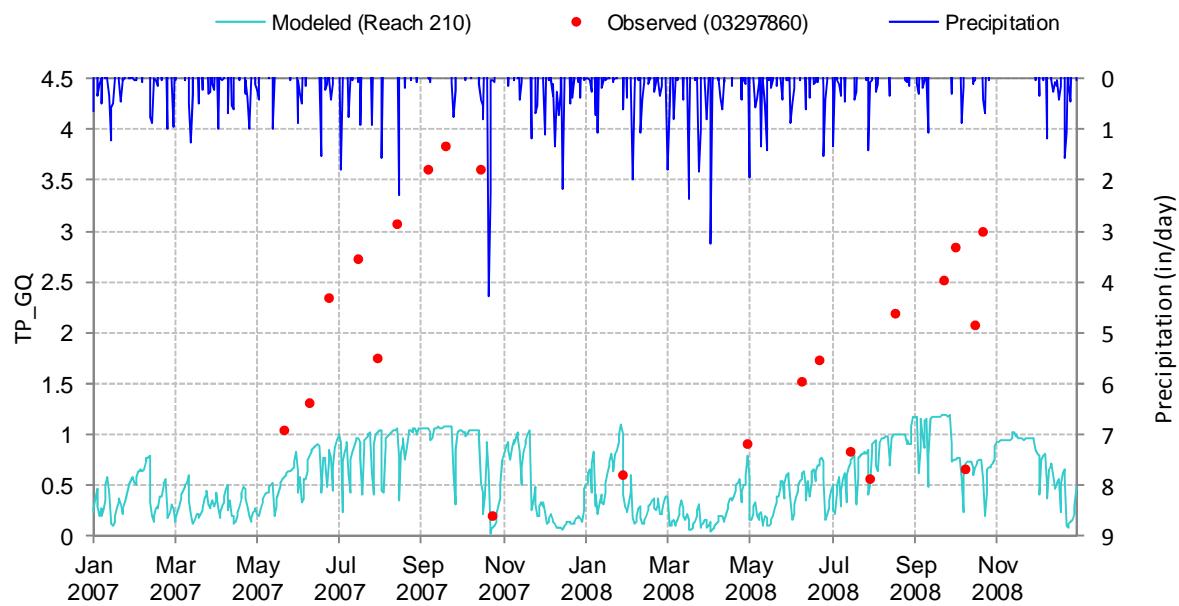


Figure B-46 Modeled vs. Observed TP\_GQ at 03297860

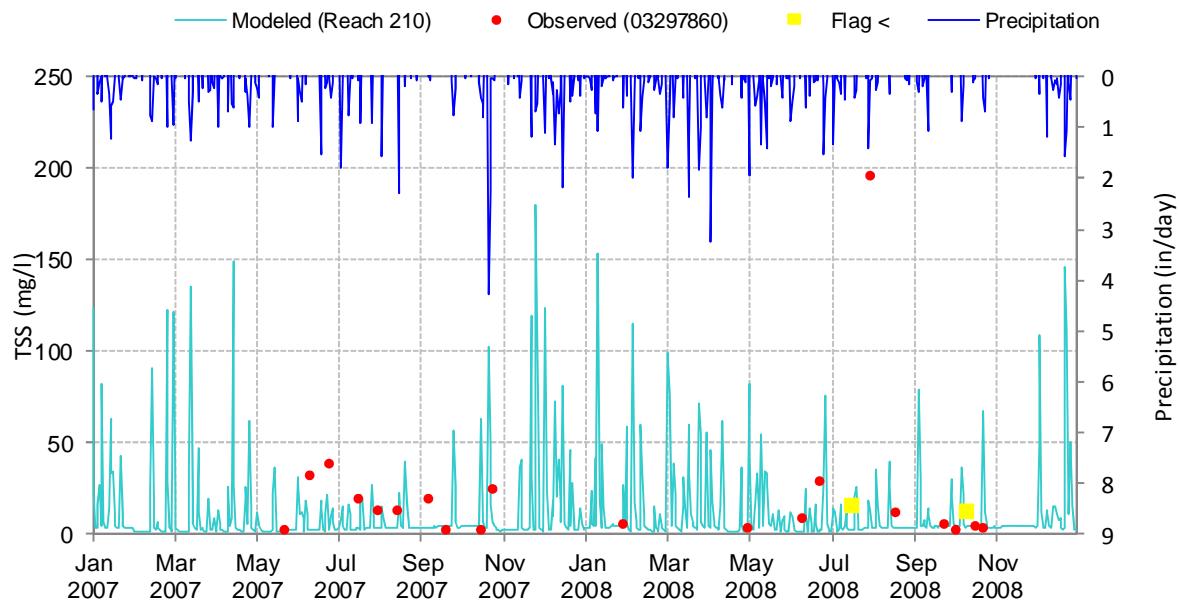


Figure B-47 Modeled vs. Observed TSS (mg/l) at 03297860

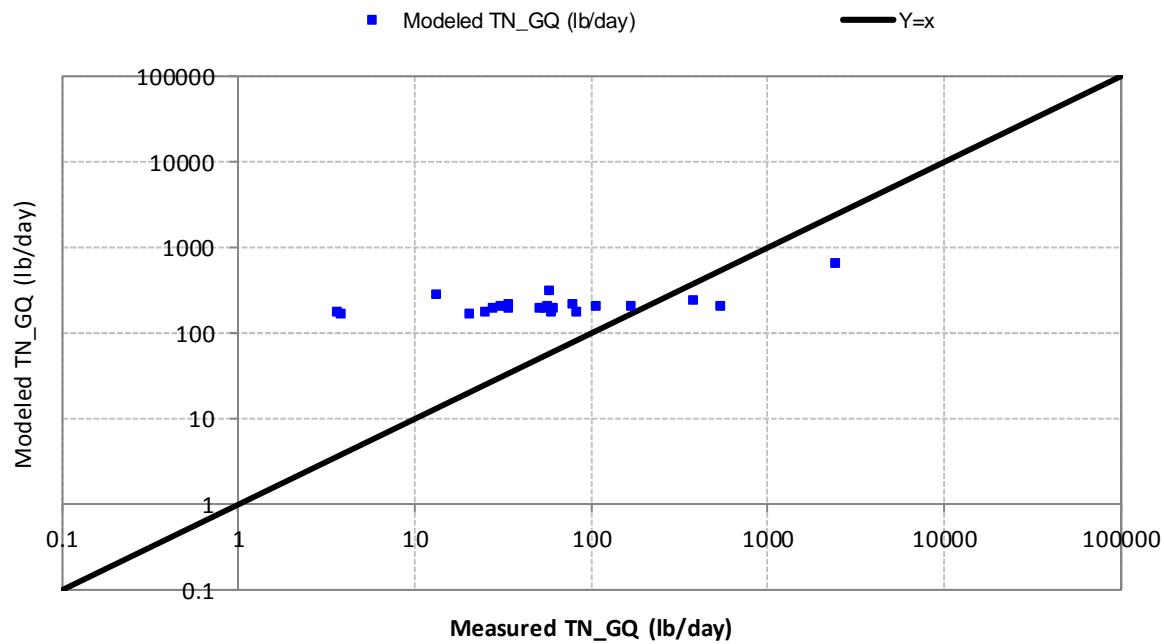


Figure B-48 Modeled vs. Observed Load TN\_GQ at 03297860

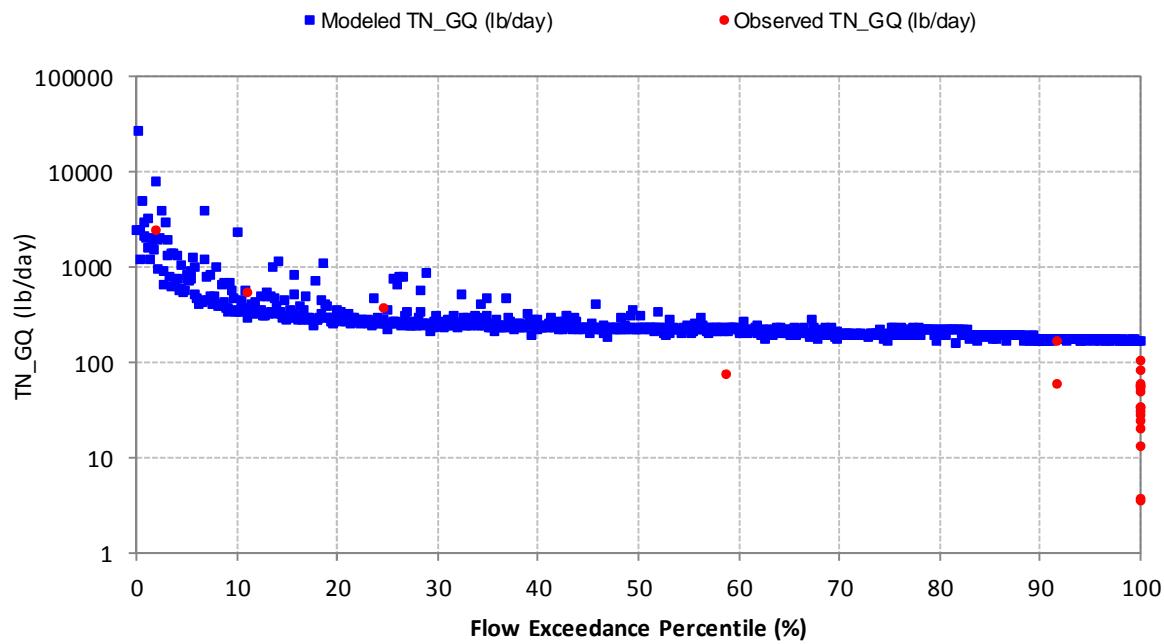


Figure B-49 Modeled vs. Observed Load TN\_GQ at 03297860

Table B-10 Modeled vs. Observed Load TN\_GQ at 03297860

Year	Simulated	Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	141,935	275,419	-48.47	257,623	-44.91
2008	140,314	237,440	-40.91	246,004	-42.96

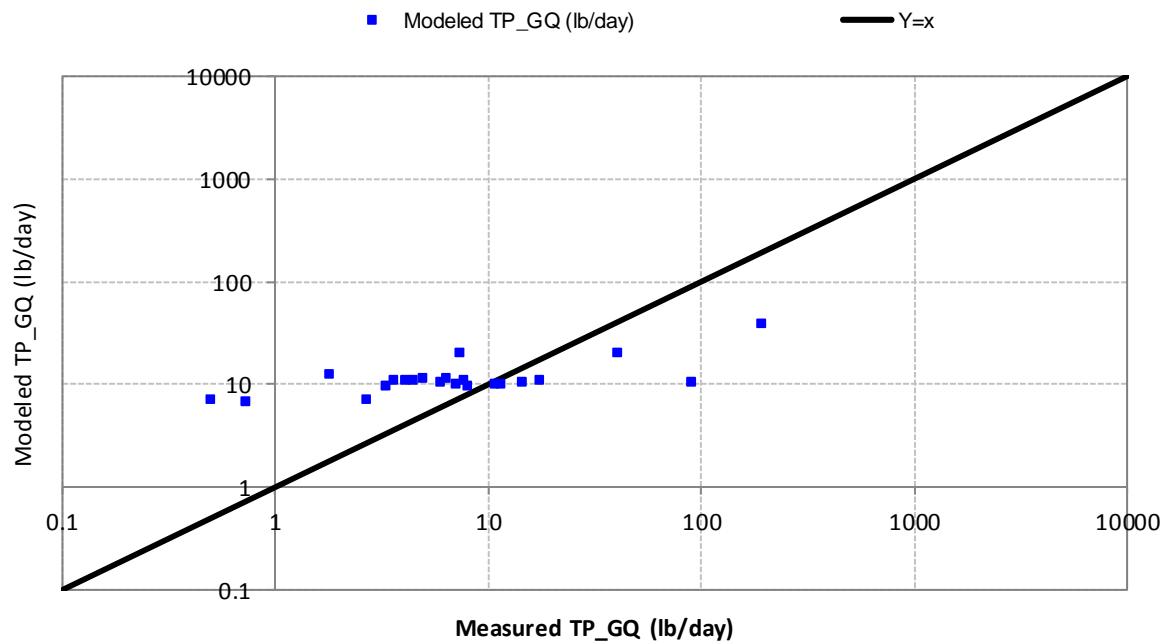


Figure B-50 Modeled vs. Observed Load TP\_GQ at 03297860

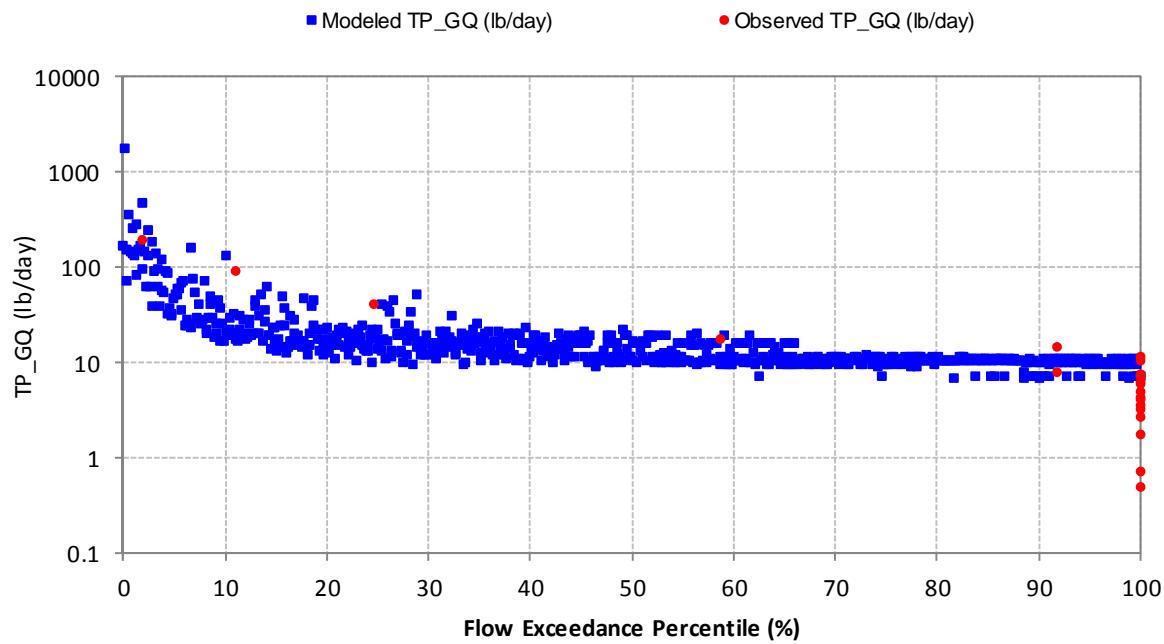


Figure B-51 Modeled vs. Observed Load TP\_GQ at 03297860

Table B-11 Modeled vs. Observed Load TP\_GQ at 03297860

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	8,741	28,106	-68.9	25,759	-66.07
2008	8,481	29,082	-70.84	34,927	-75.72

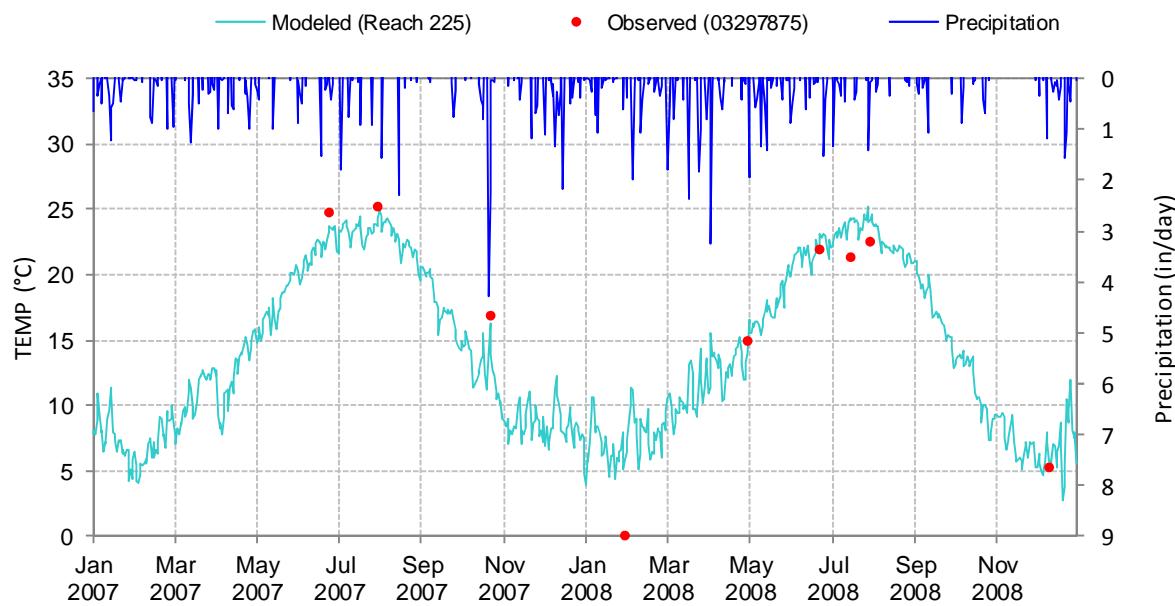
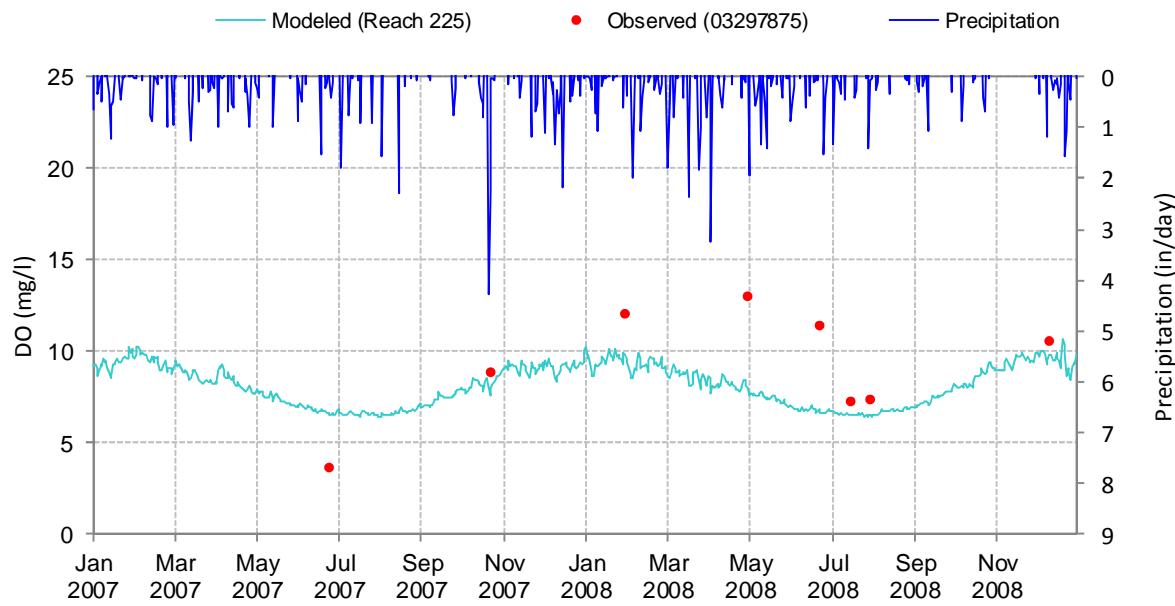
Figure B-52 Modeled vs. Observed TEMP ( $^{\circ}\text{C}$ ) at 03297875

Figure B-53 Modeled vs. Observed DO (mg/l) at 03297875

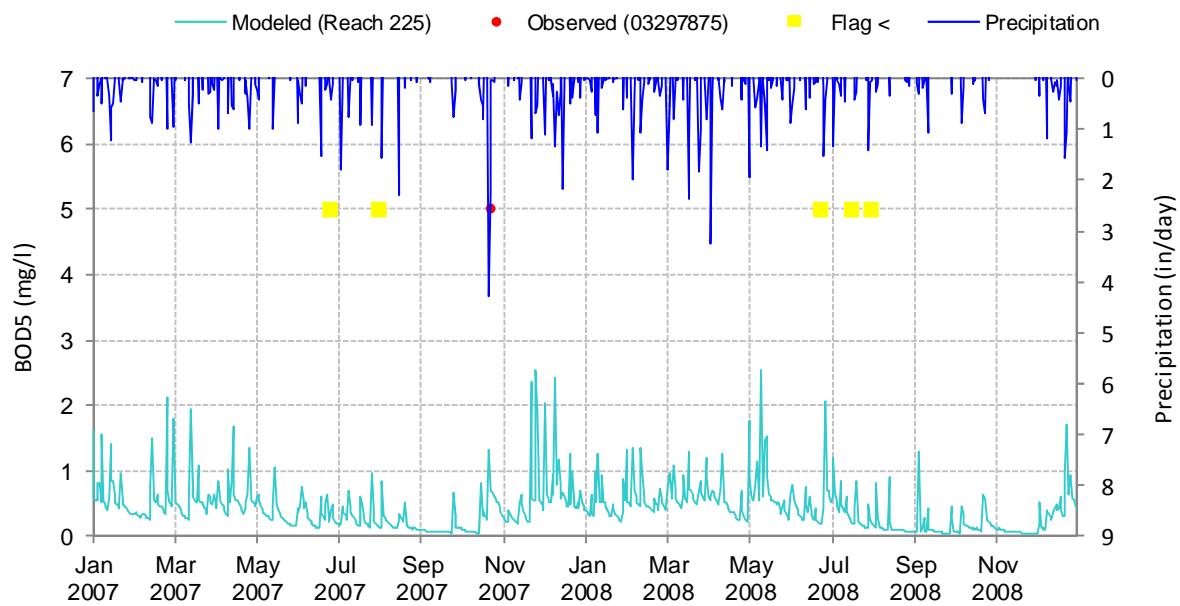


Figure B-54 Modeled vs. Observed BOD5 (mg/l) at 03297875

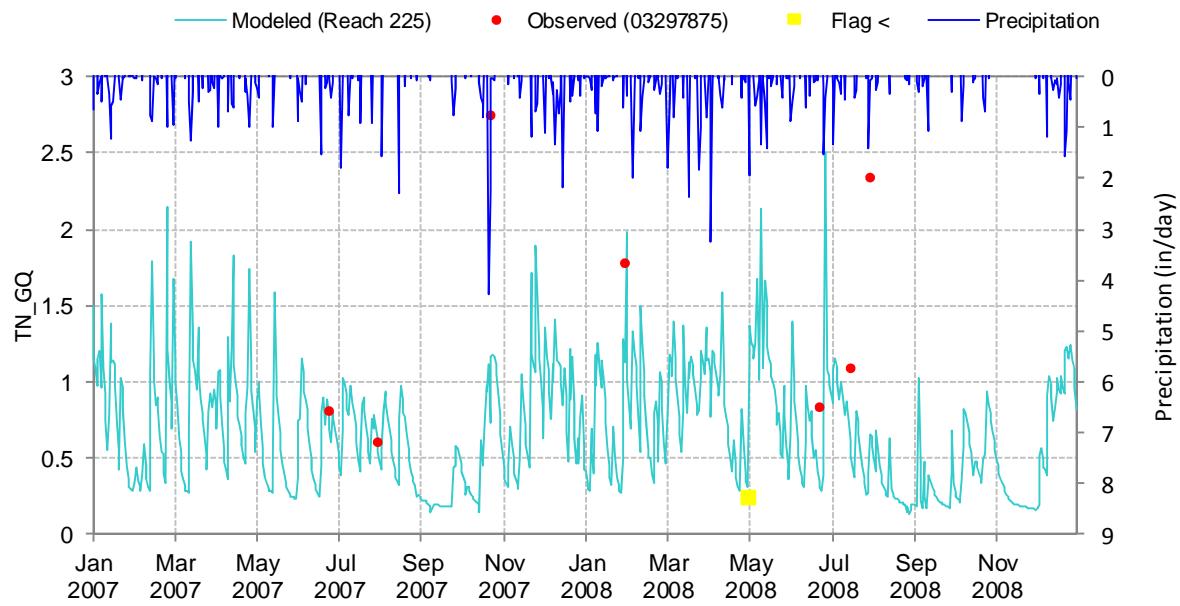


Figure B-55 Modeled vs. Observed TN\_GQ at 03297875

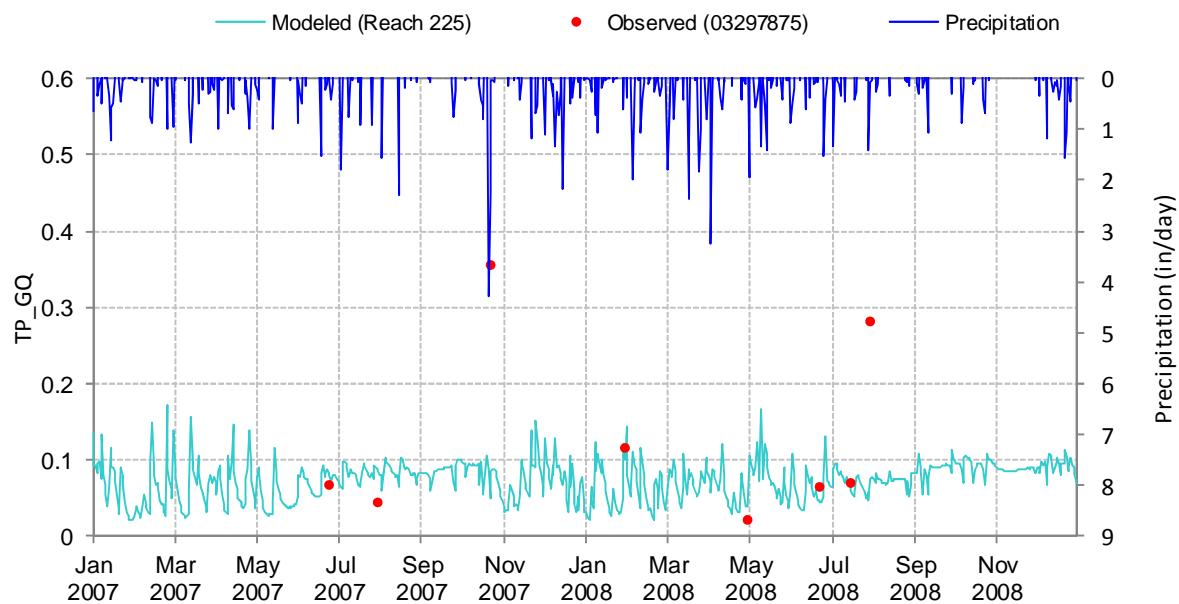


Figure B-56 Modeled vs. Observed TP\_GQ at 03297875

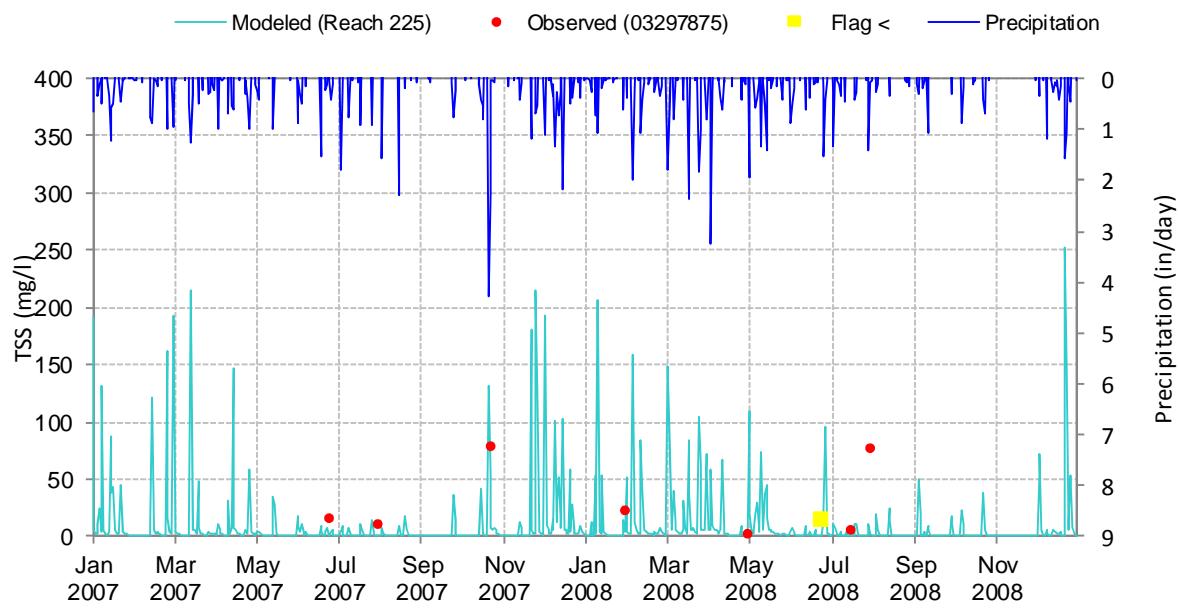


Figure B-57 Modeled vs. Observed TSS (mg/l) at 03297875

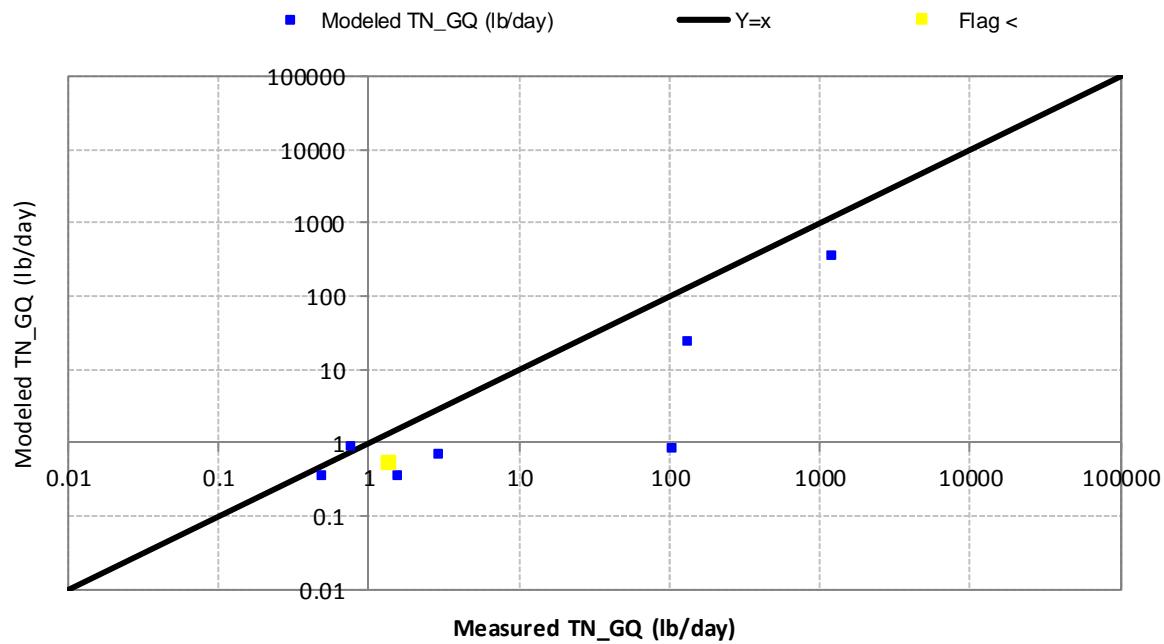


Figure B-58 Modeled vs. Observed Load TN\_GQ at 03297875

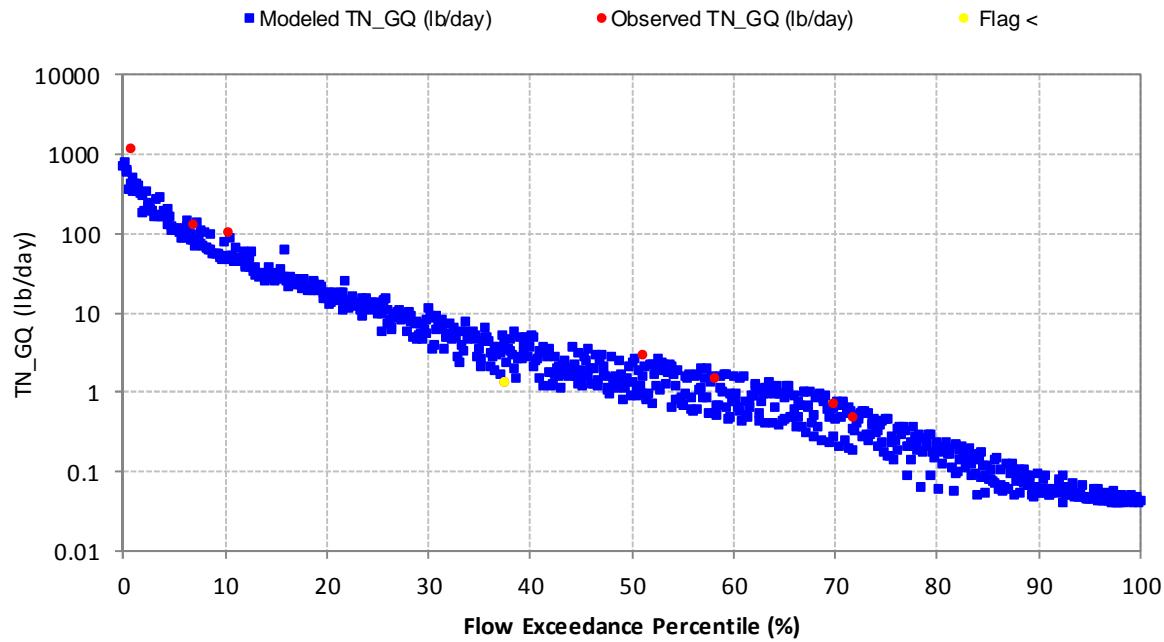


Figure B-59 Modeled vs. Observed Load TN\_GQ at 03297875

Table B-12 Modeled vs. Observed Load TN\_GQ at 03297875

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	8,025	13,647		-41.2	12,456	-35.57
2008	9,986	17,876		-44.14	11,979	-16.63

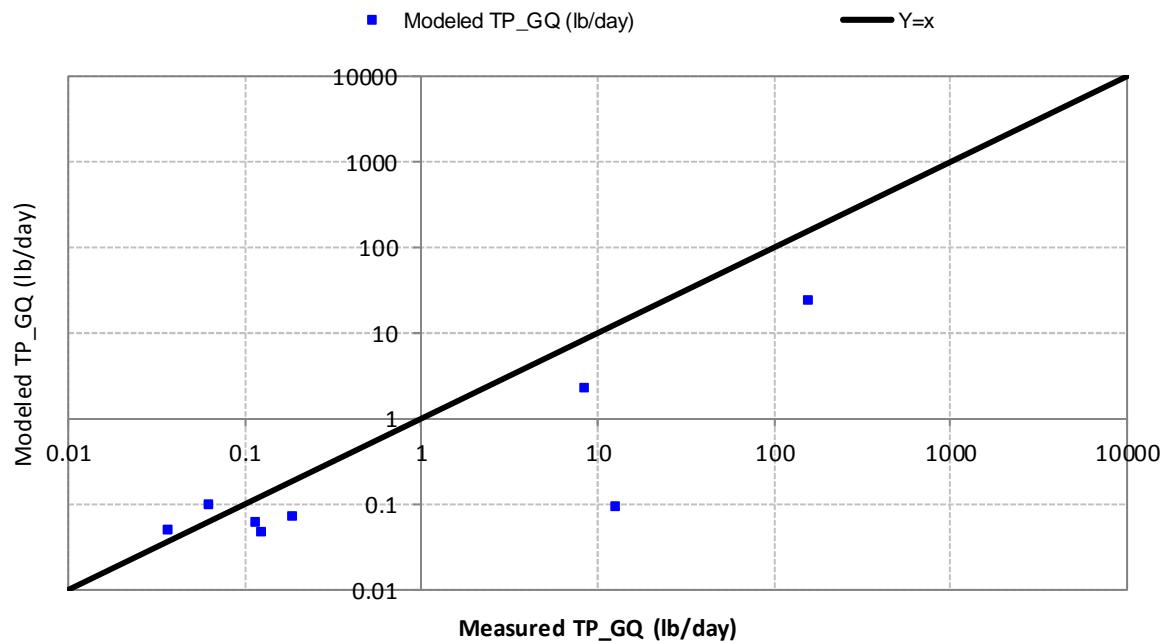


Figure B-60 Modeled vs. Observed Load TP\_GQ at 03297875

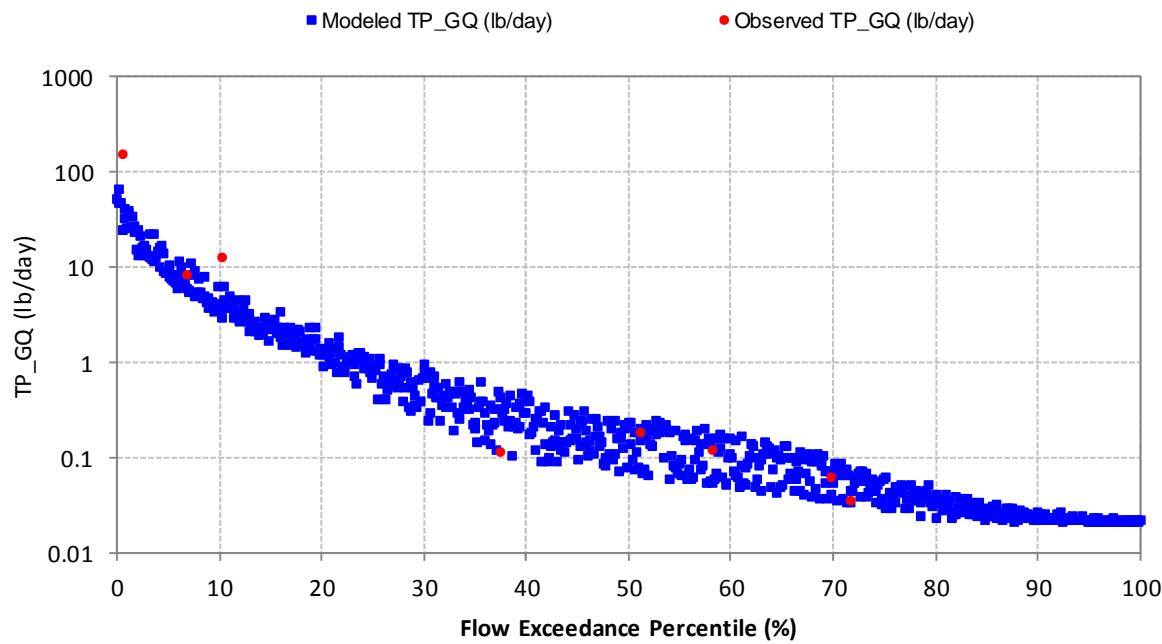


Figure B-61 Modeled vs. Observed Load TP\_GQ at 03297875

Table B-13 Modeled vs. Observed Load TP\_GQ at 03297875

Year	Simulated	Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	649	1,588	-59.14	1,282	-49.4
2008	770	1,405	-45.22	939	-18.08

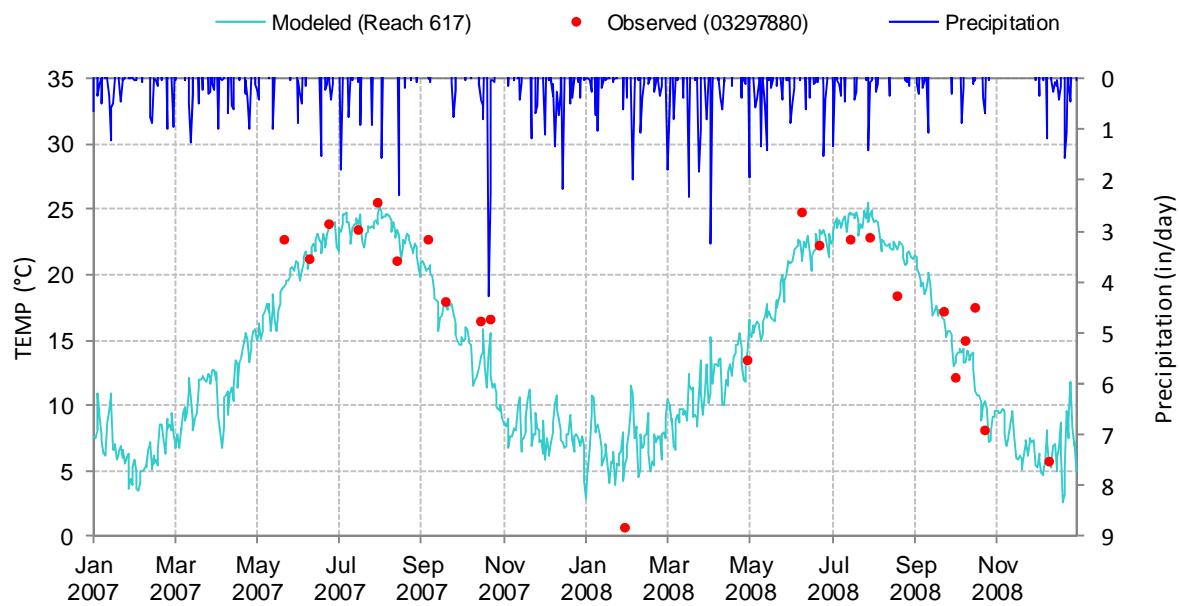


Figure B-62 Modeled vs. Observed TEMP (°C) at 03297880

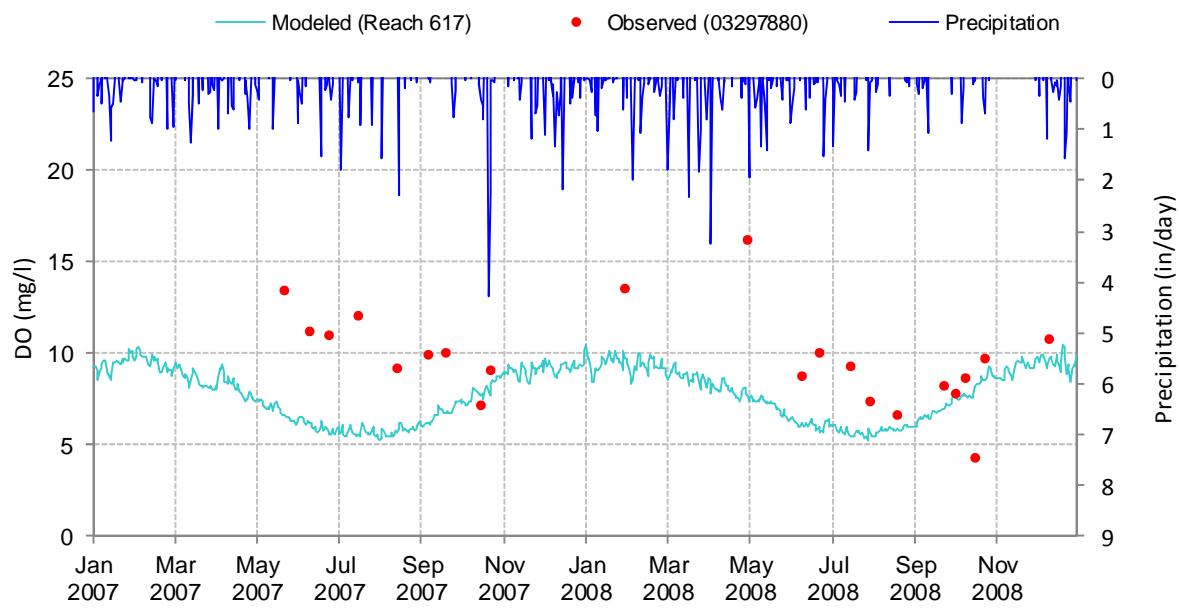


Figure B-63 Modeled vs. Observed DO (mg/l) at 03297880

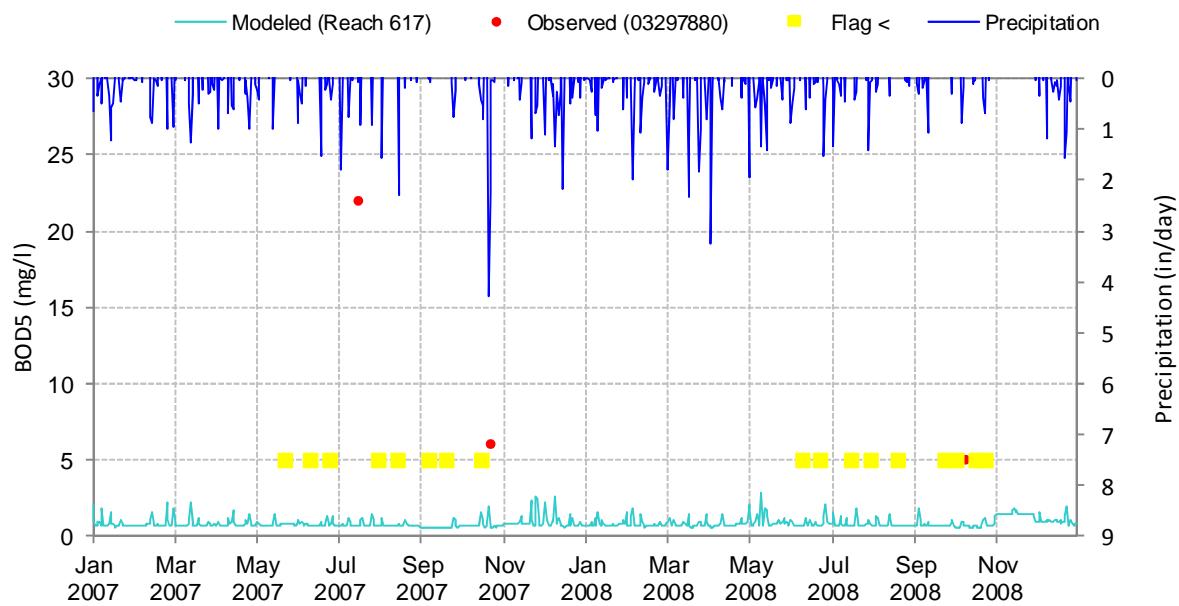


Figure B-64 Modeled vs. Observed BOD5 (mg/l) at 03297880

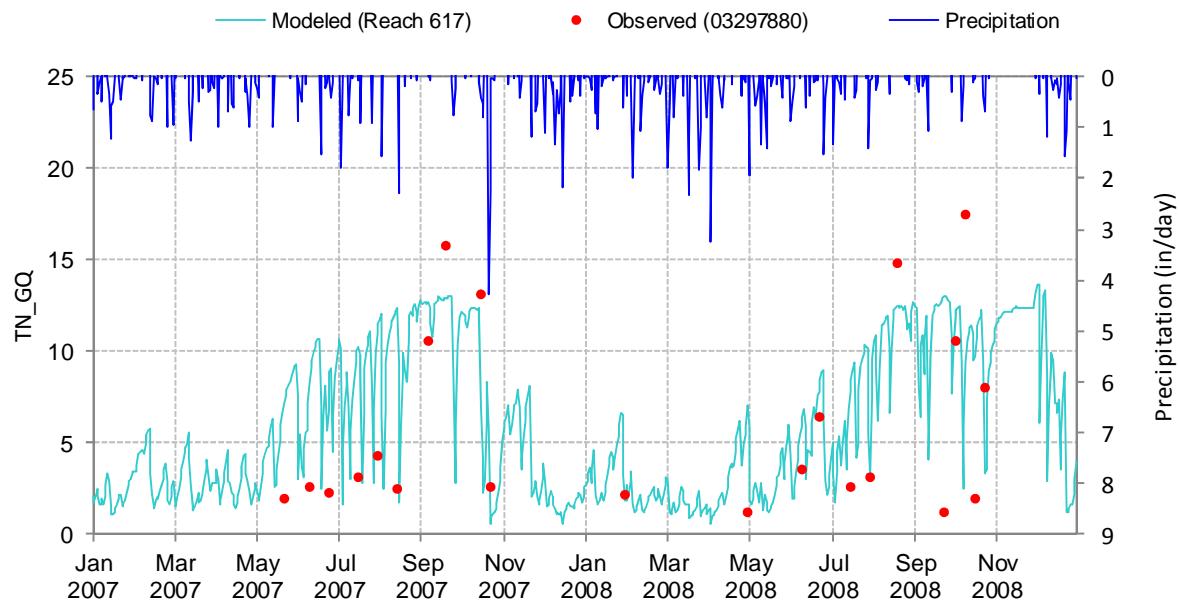


Figure B-65 Modeled vs. Observed TN\_GQ at 03297880

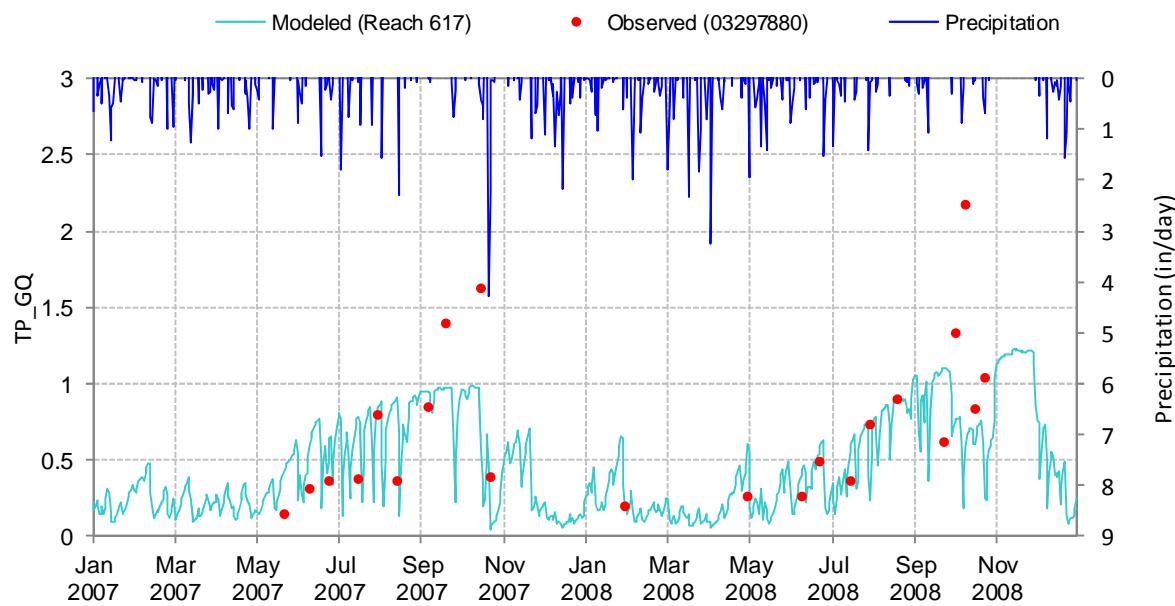


Figure B-66 Modeled vs. Observed TP\_GQ at 03297880

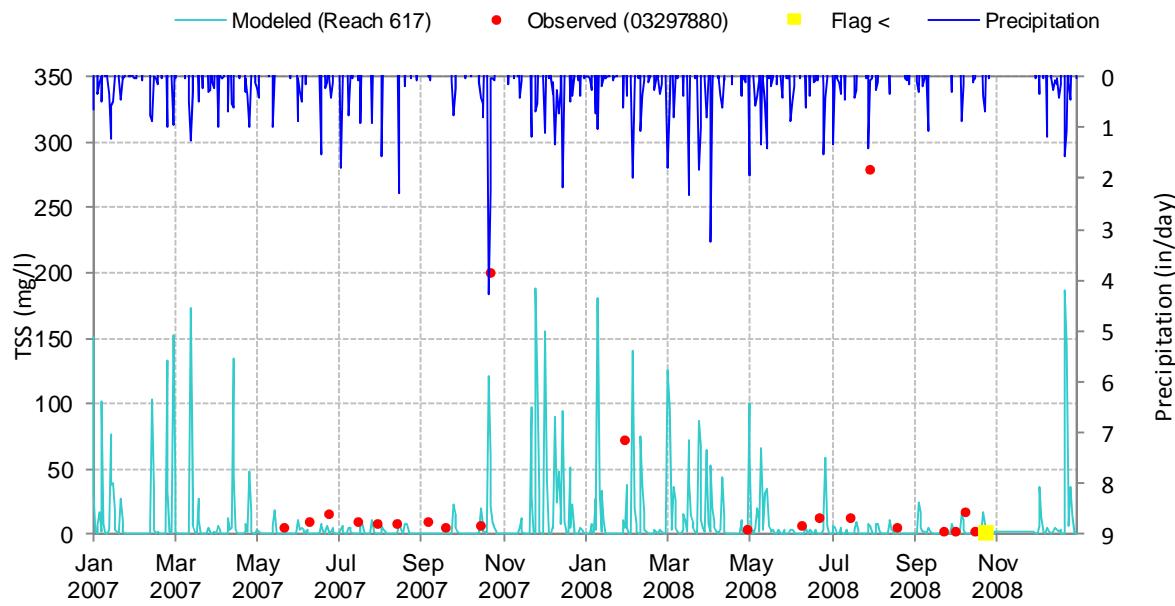


Figure B-67 Modeled vs. Observed TSS (mg/l) at 03297880

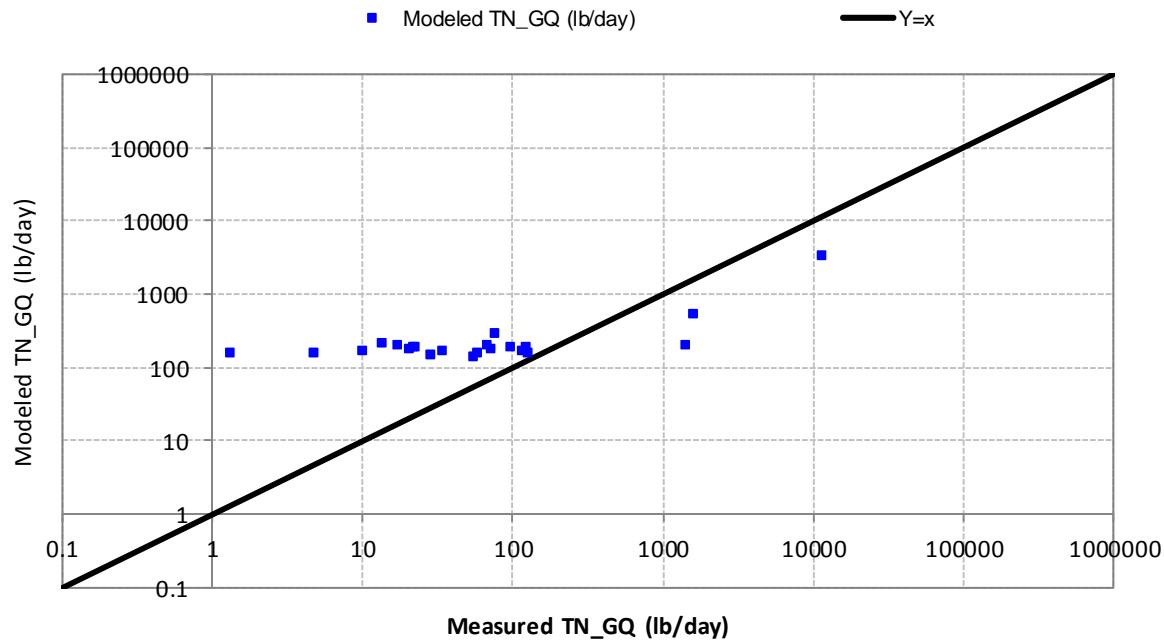


Figure B-68 Modeled vs. Observed Load TN\_GQ at 03297880

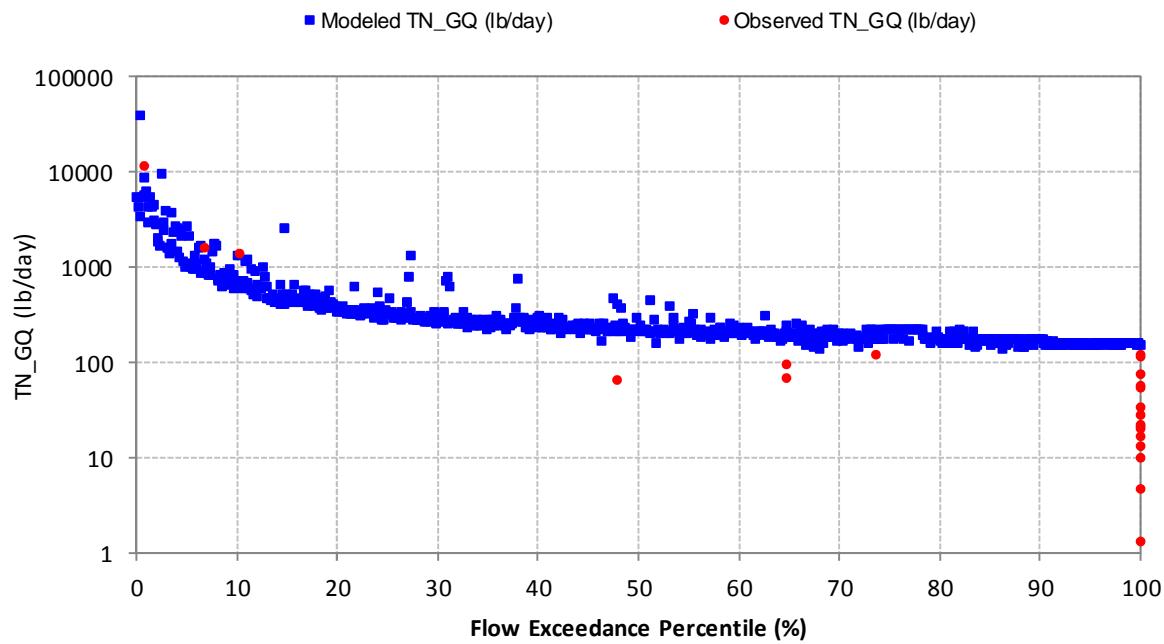


Figure B-69 Modeled vs. Observed Load TN\_GQ at 03297880

Table B-14 Modeled vs. Observed Load TN\_GQ at 03297880

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	185,405	195,818	-5.32	189,658	-2.24	
2008	189,478	266,372	-28.87	243,078	-22.05	

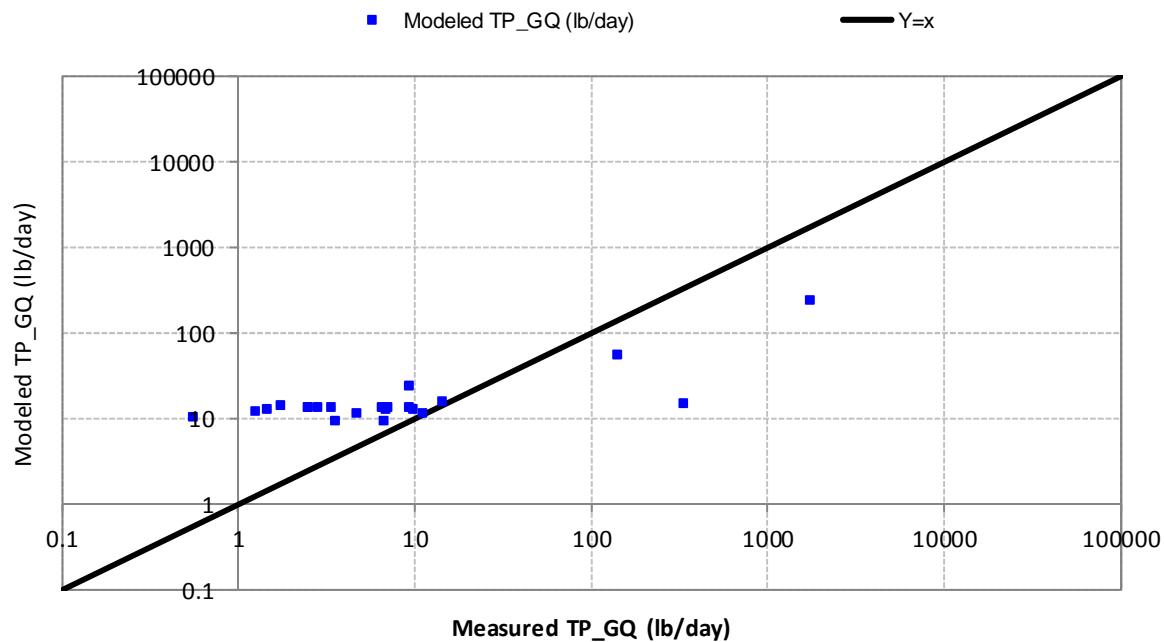


Figure B-70 Modeled vs. Observed Load TP\_GQ at 03297880

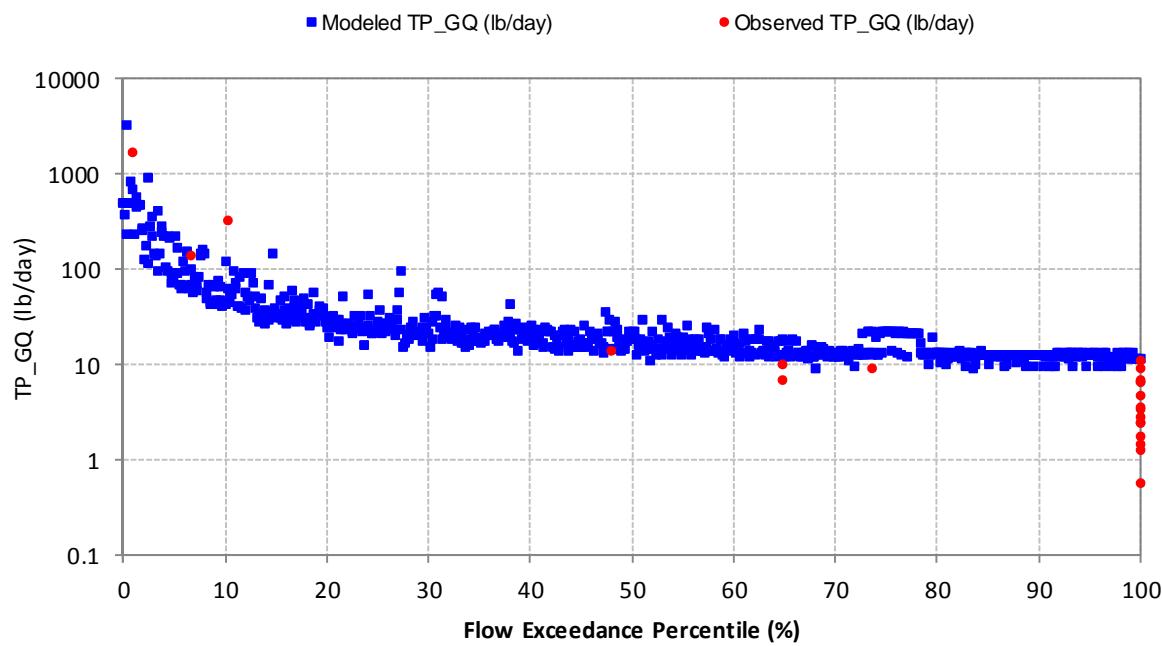


Figure B-71 Modeled vs. Observed Load TP\_GQ at 03297880

Table B-15 Modeled vs. Observed Load TP\_GQ at 03297880

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	15,067	22,031	-31.61	19,421	-22.42
2008	16,042	29,270	-45.19	30,963	-48.19

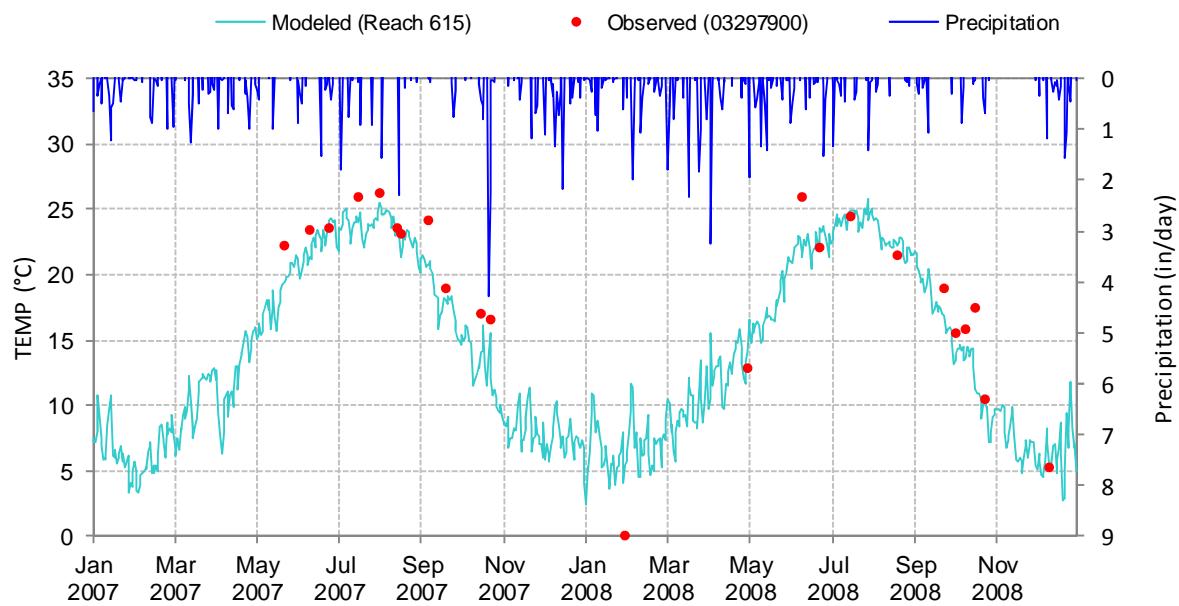


Figure B-72 Modeled vs. Observed TEMP (°C) at 03297900

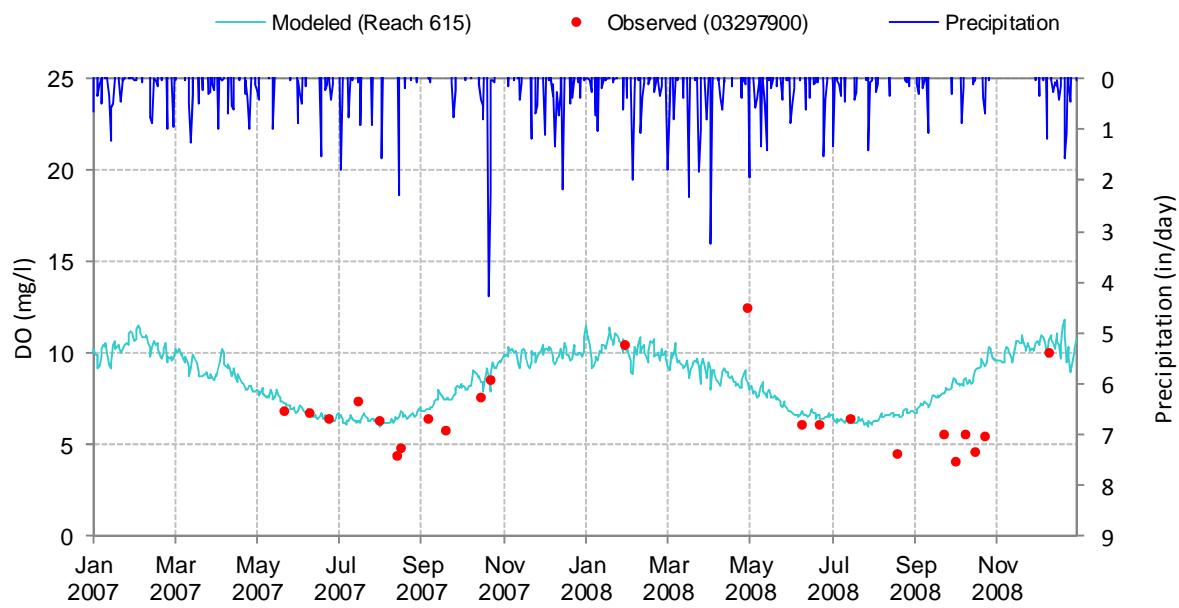


Figure B-73 Modeled vs. Observed DO (mg/l) at 03297900

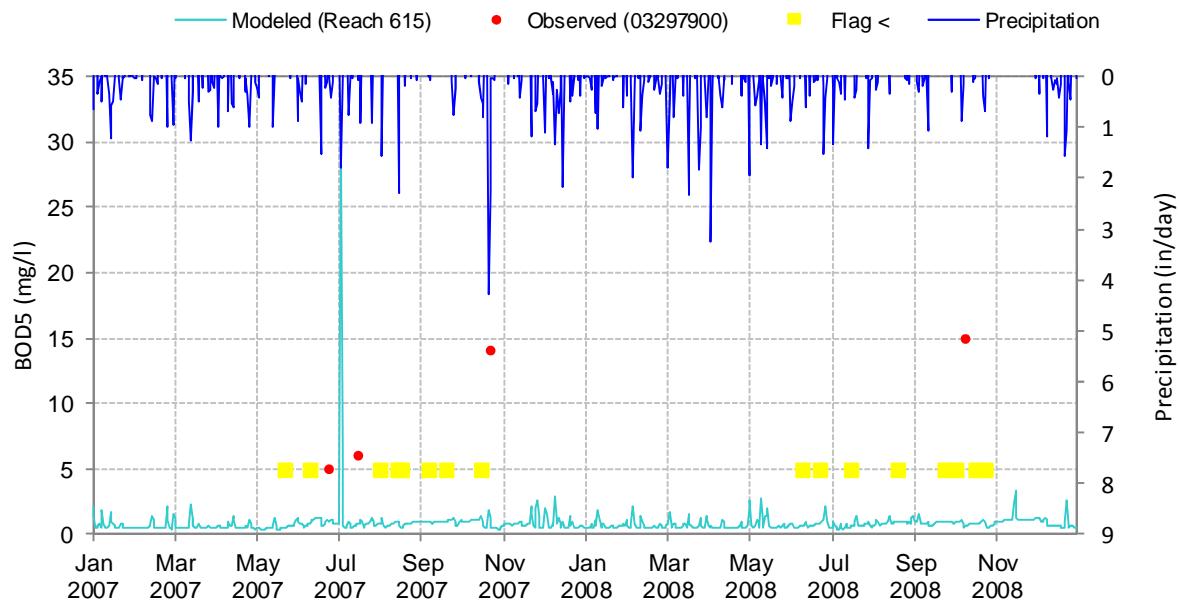


Figure B-74 Modeled vs. Observed BOD5 (mg/l) at 03297900

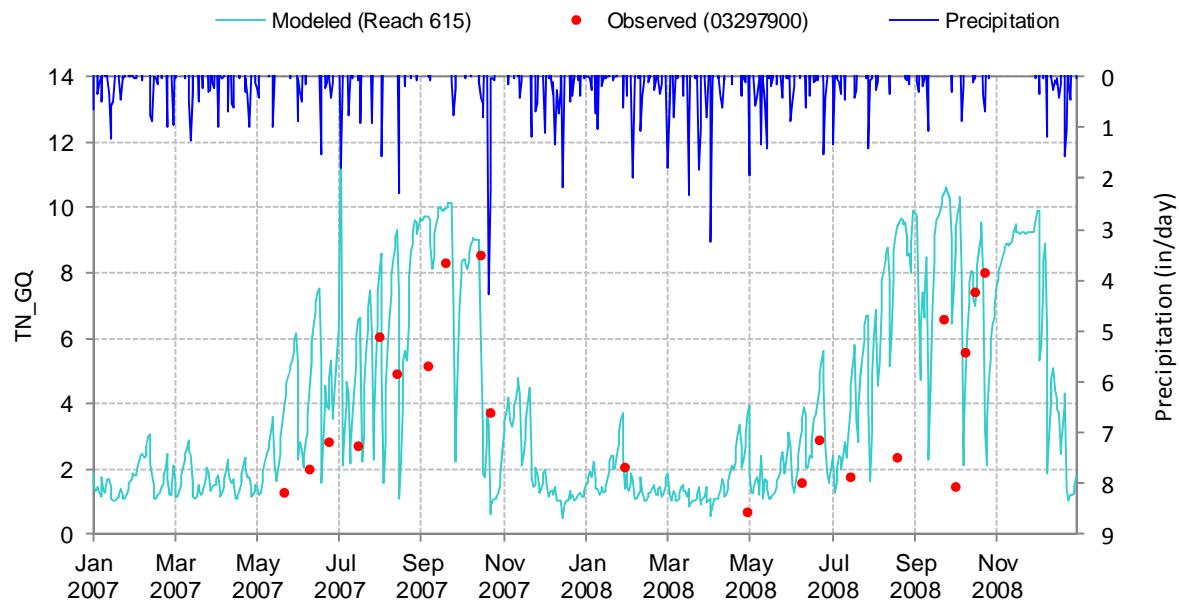


Figure B-75 Modeled vs. Observed TN\_GQ at 03297900

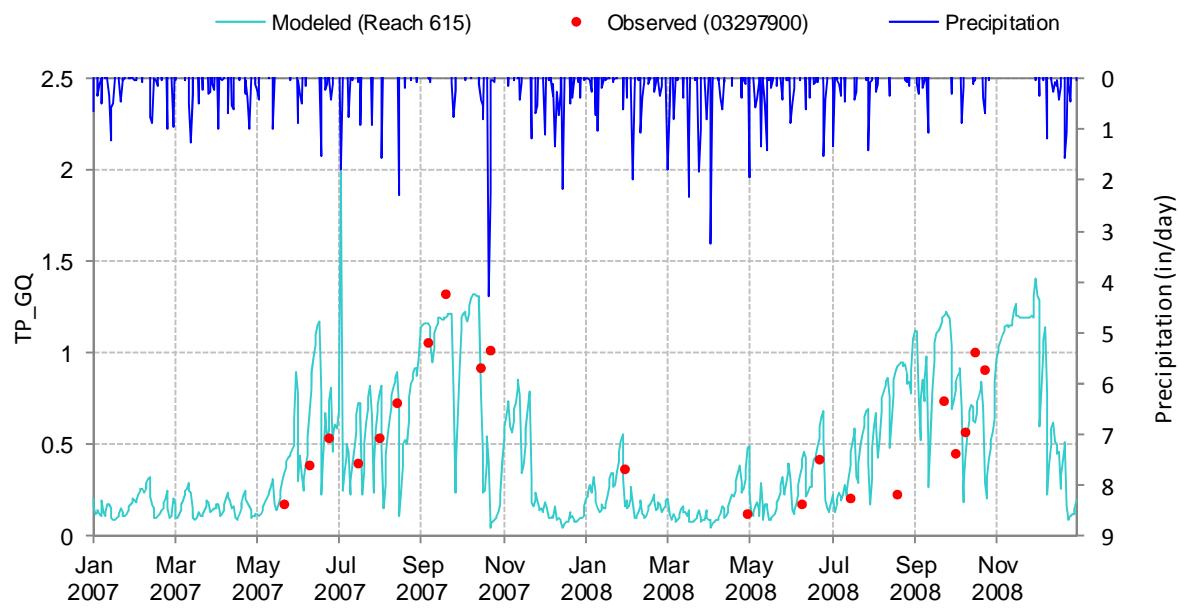


Figure B-76 Modeled vs. Observed TP\_GQ at 03297900

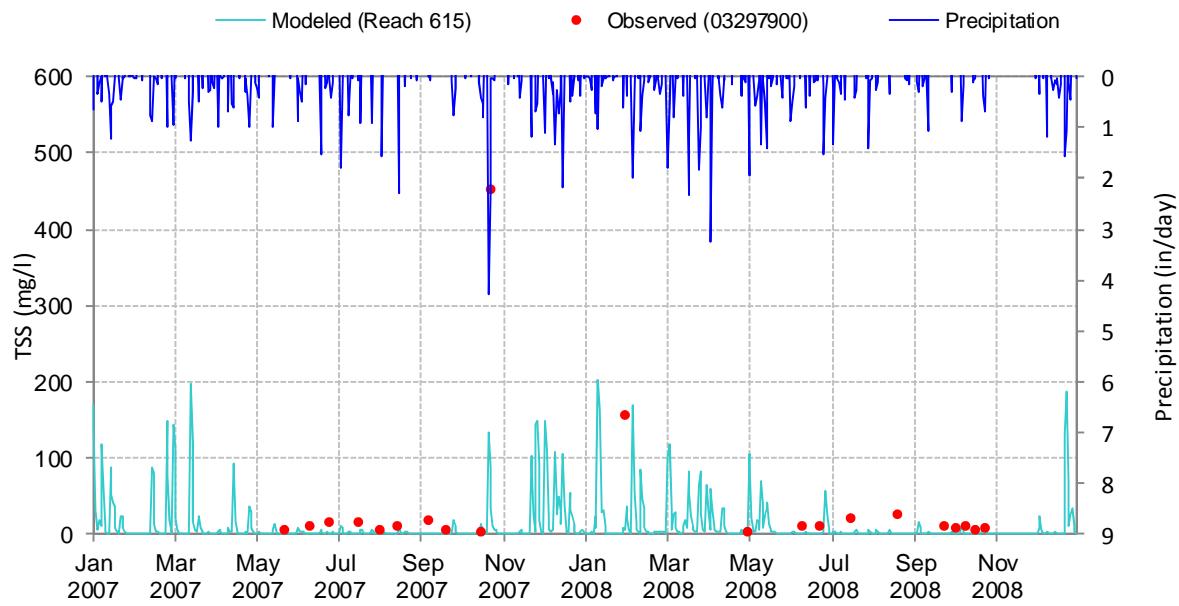


Figure B-77 Modeled vs. Observed TSS (mg/l) at 03297900

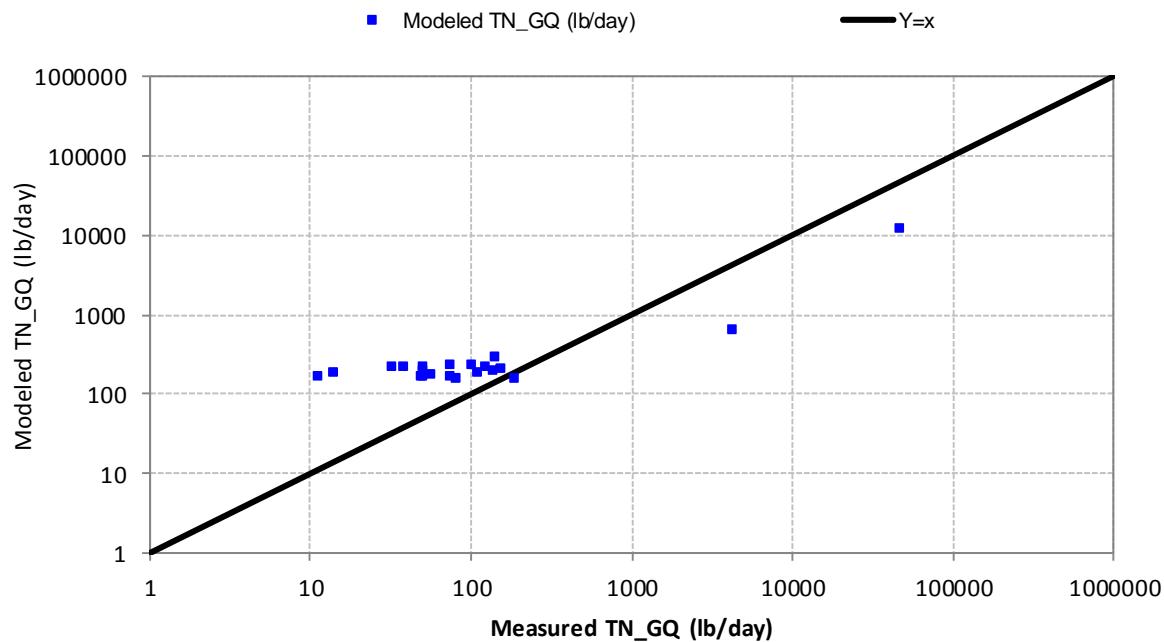


Figure B-78 Modeled vs. Observed Load TN\_GQ at 03297900

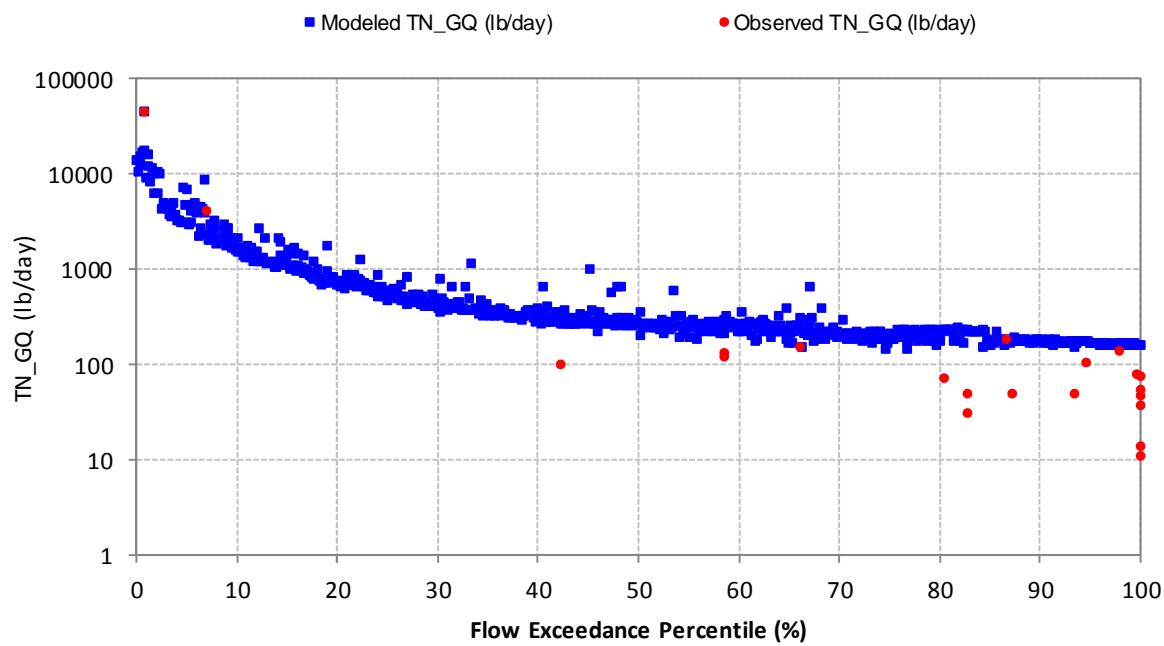


Figure B-79 Modeled vs. Observed Load TN\_GQ at 03297900

Table B-16 Modeled vs. Observed Load TN\_GQ at 03297900

Year	Simulated	Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	323,645	568,866	-43.11	505,628	-35.99
2008	372,040	690,973	-46.16	534,636	-30.41

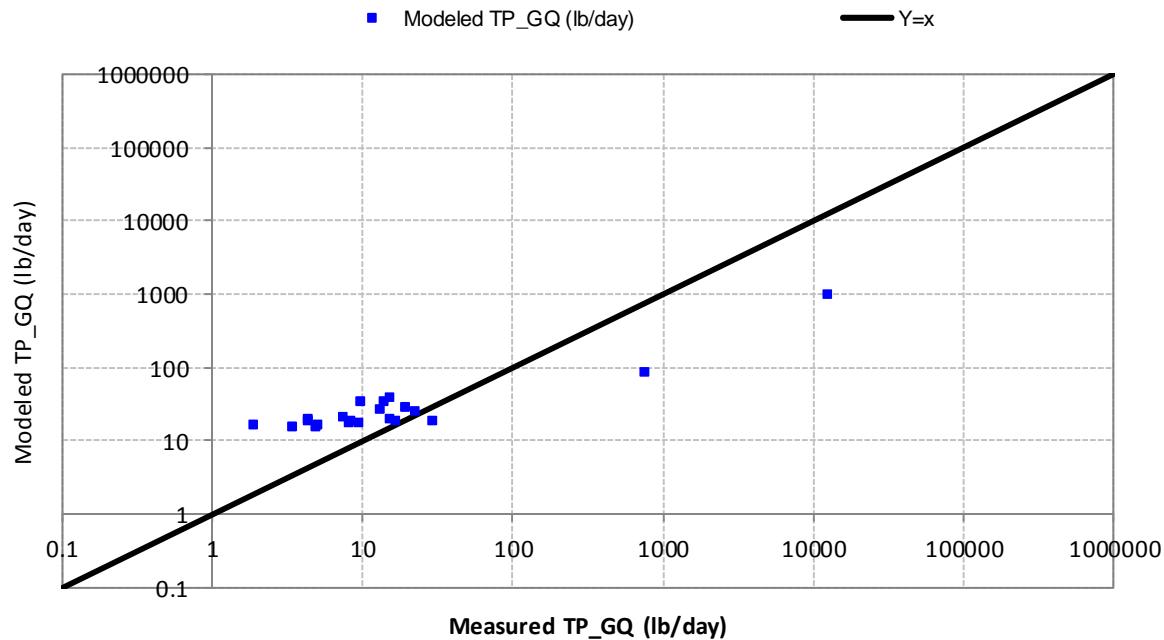


Figure B-80 Modeled vs. Observed Load TP\_GQ at 03297900

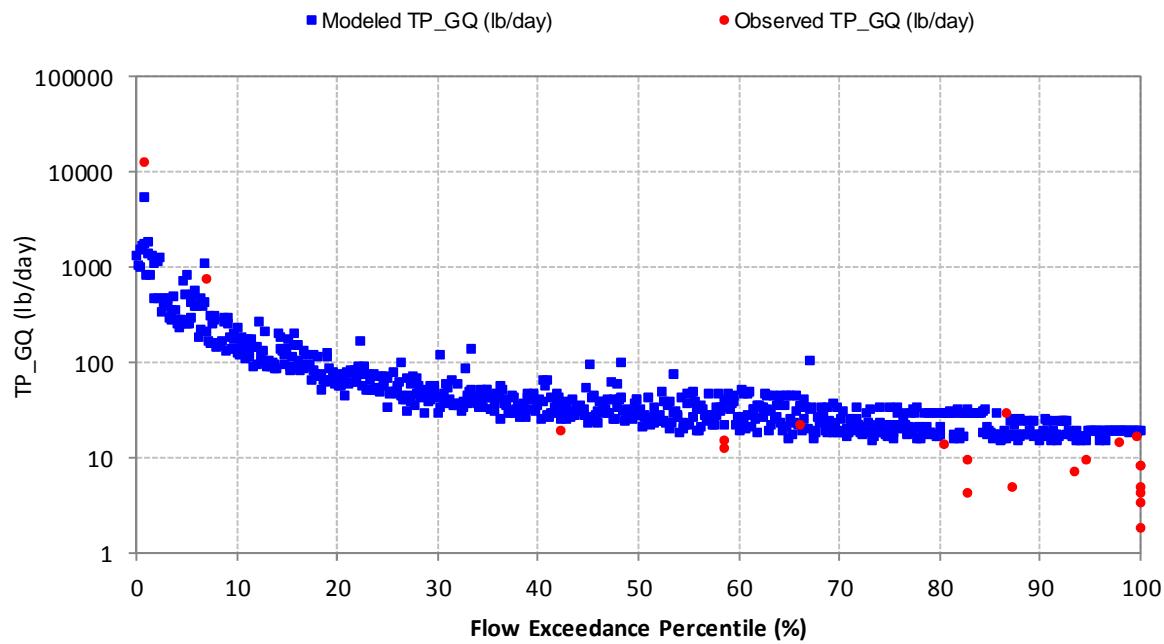


Figure B-81 Modeled vs. Observed Load TP\_GQ at 03297900

Table B-17 Modeled vs. Observed Load TP\_GQ at 03297900

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	33,464	127,893	-73.83	104,104	-67.86
2008	38,429	124,603	-69.16	89,418	-57.02

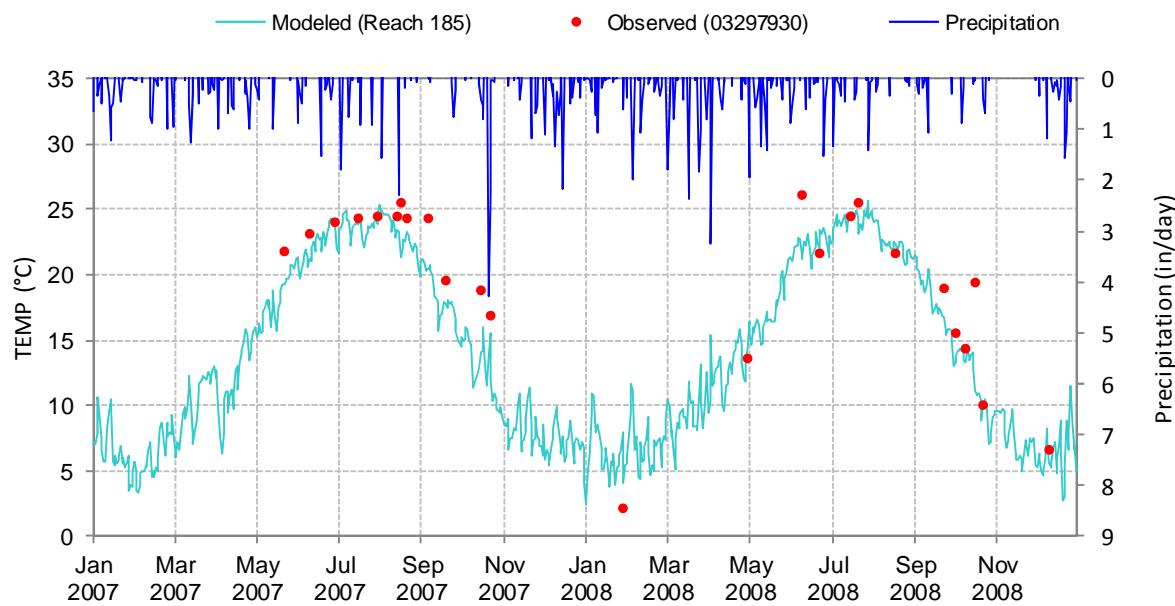


Figure B-82 Modeled vs. Observed TEMP (°C) at 03297930

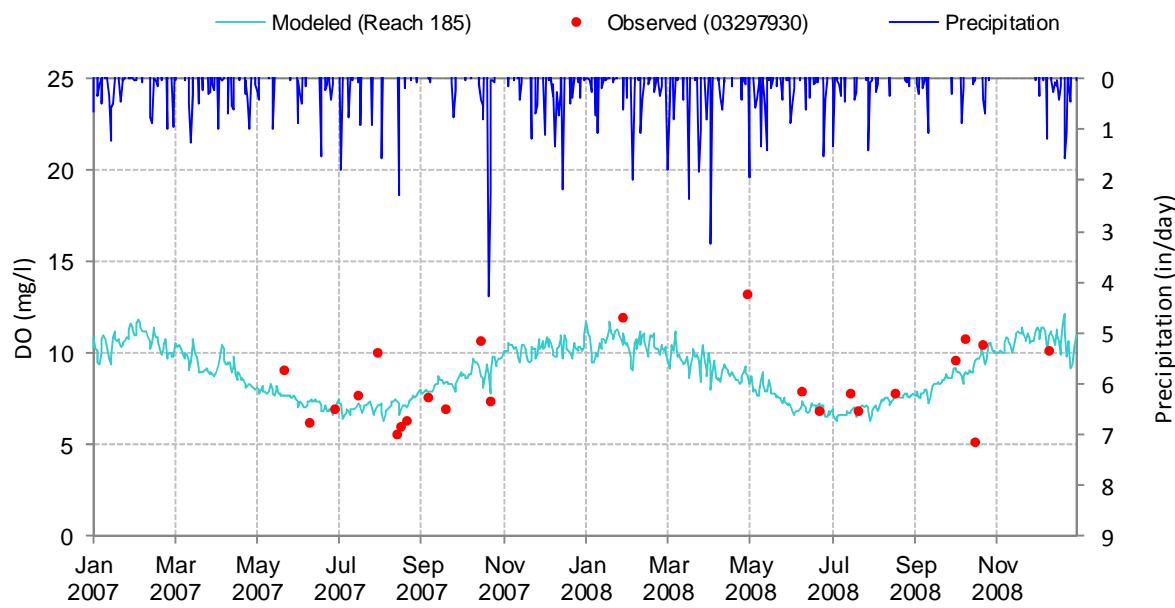


Figure B-83 Modeled vs. Observed DO (mg/l) at 03297930

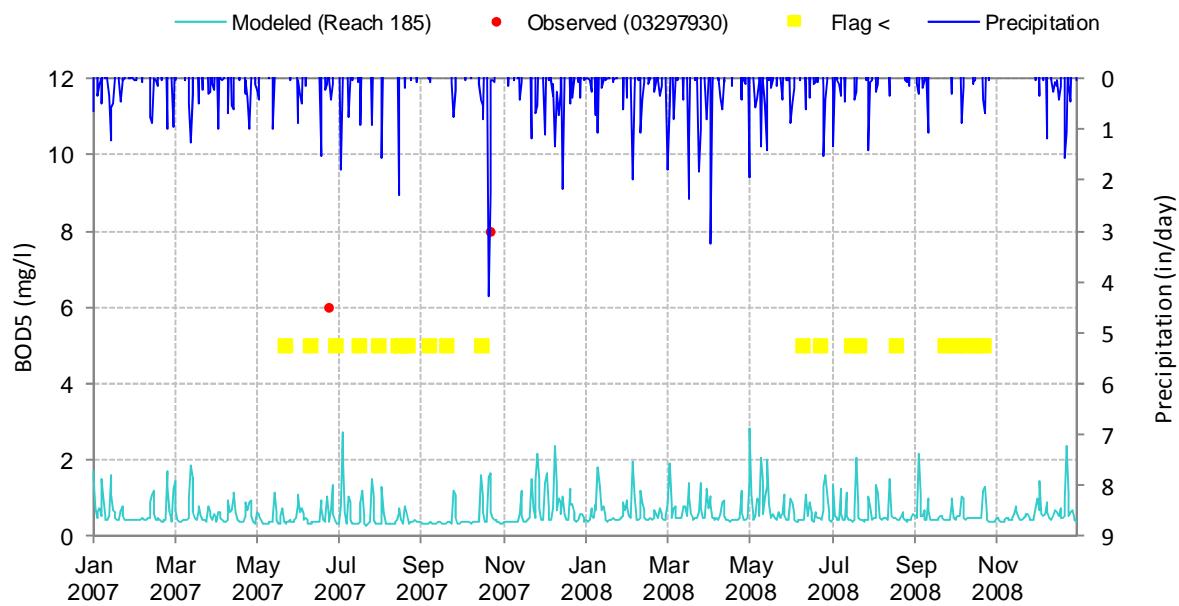


Figure B-84 Modeled vs. Observed BOD5 (mg/l) at 03297930

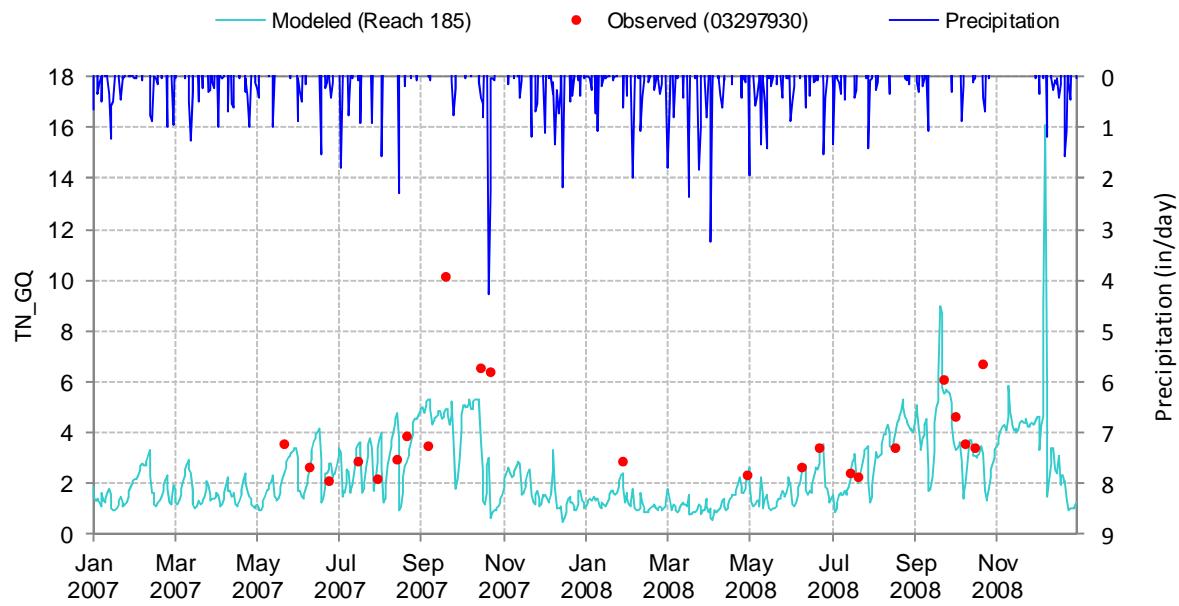


Figure B-85 Modeled vs. Observed TN\_GQ at 03297930

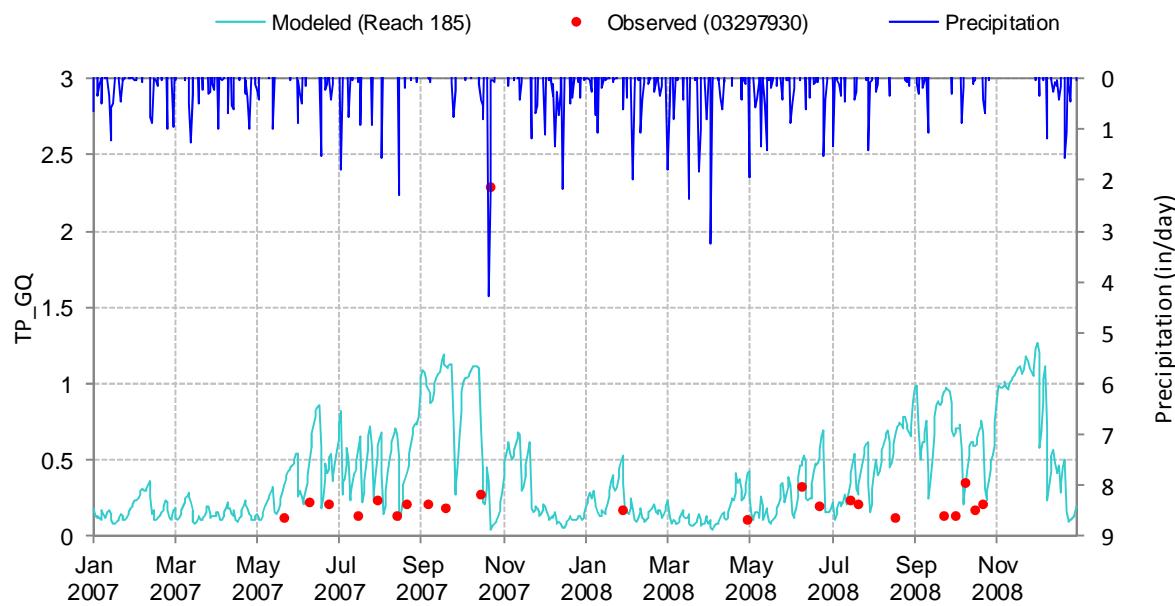


Figure B-86 Modeled vs. Observed TP\_GQ at 03297930

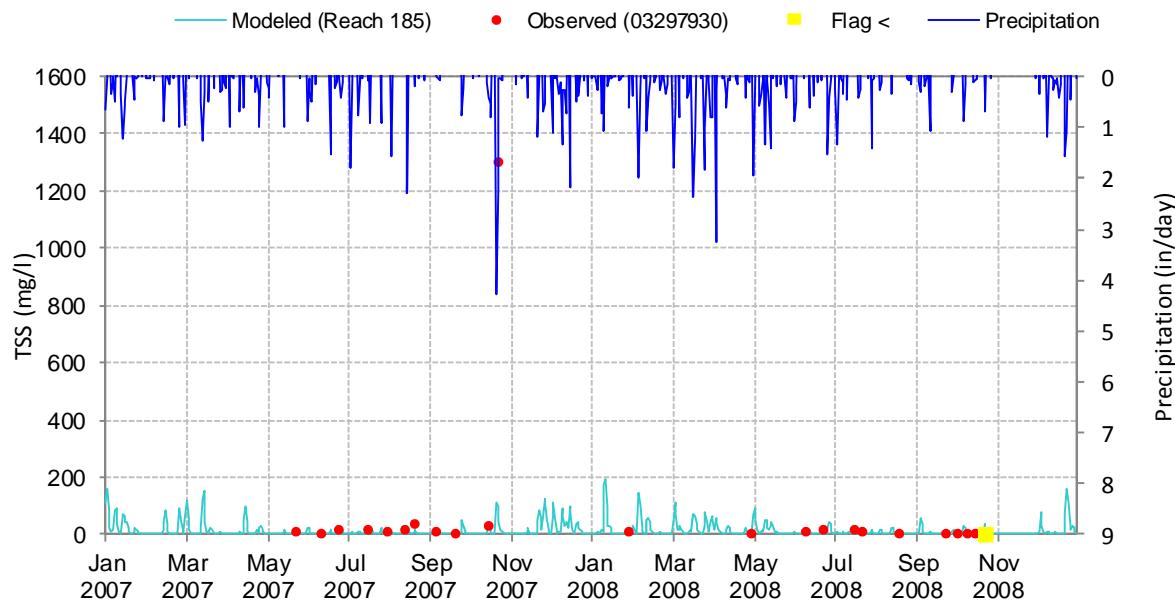


Figure B-87 Modeled vs. Observed TSS (mg/l) at 03297930

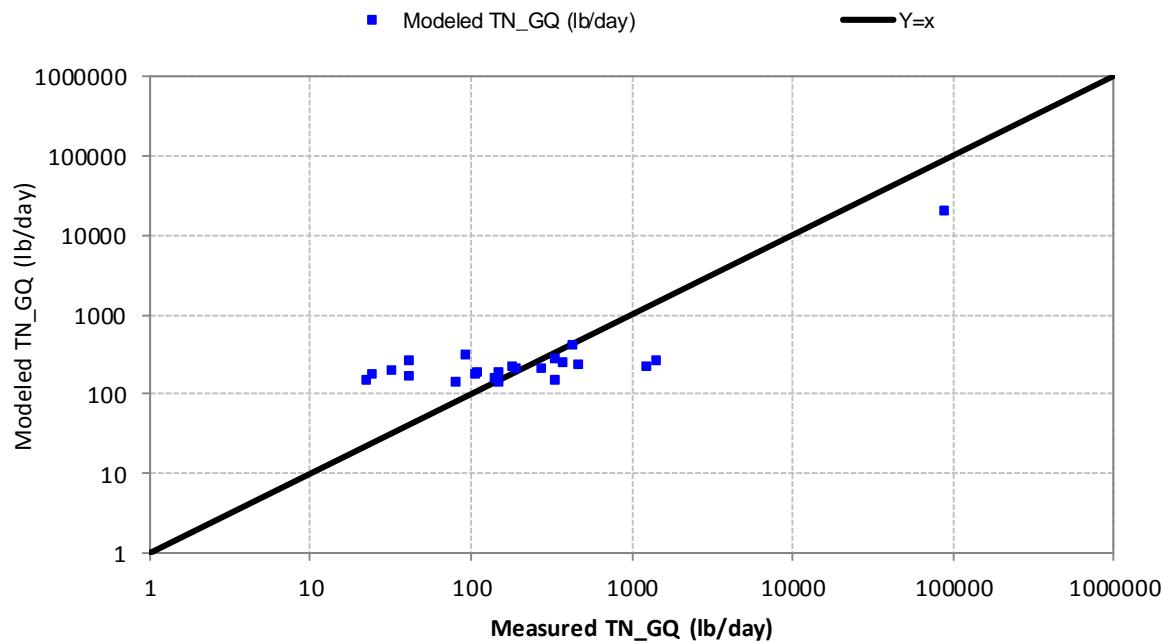


Figure B-88 Modeled vs. Observed Load TN\_GQ at 03297930

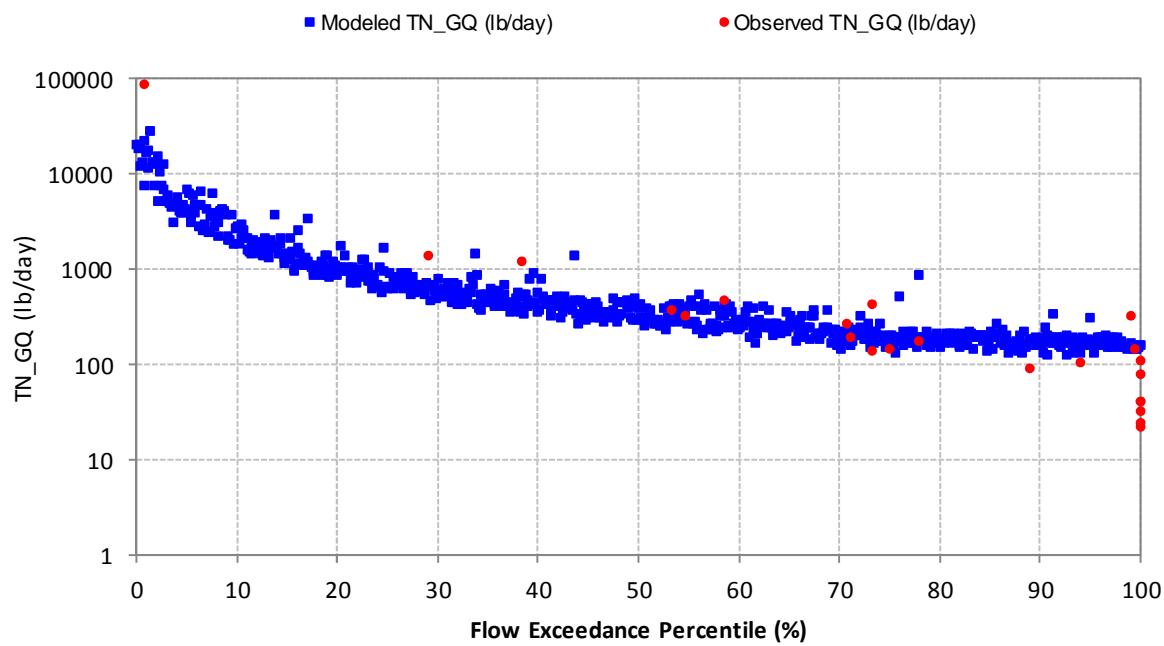


Figure B-89 Modeled vs. Observed Load TN\_GQ at 03297930

Table B-18 Modeled vs. Observed Load TN\_GQ at 03297930

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	386,191	1,495,328	-74.17	1,331,863	-71	
2008	443,316	1,264,389	-64.94	1,120,443	-60.43	

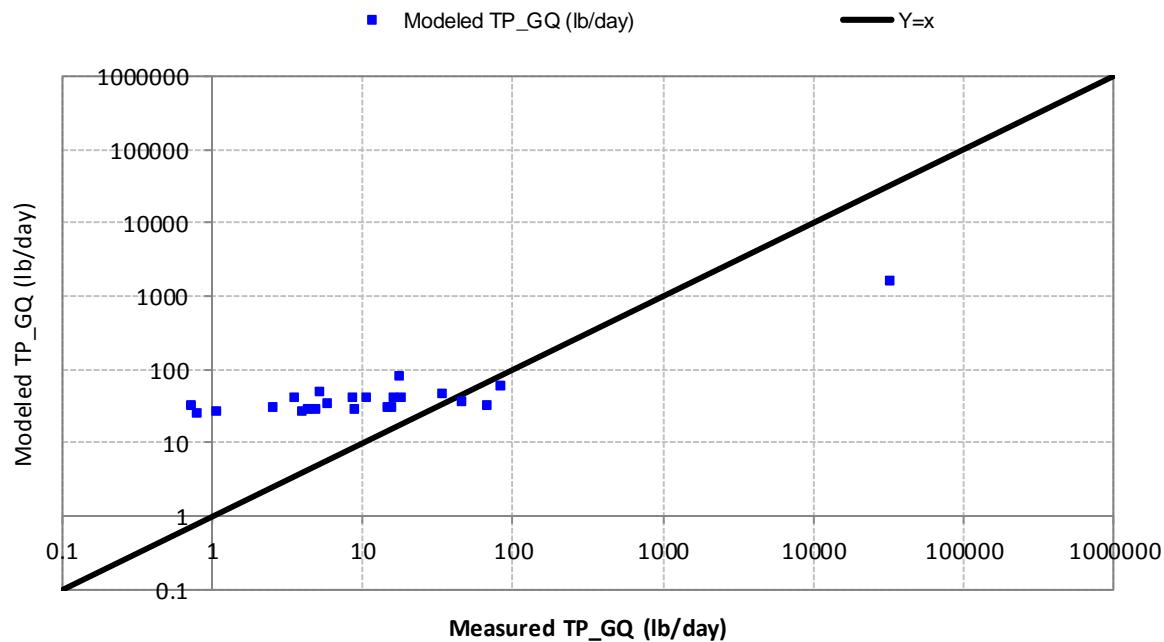


Figure B-90 Modeled vs. Observed Load TP\_GQ at 03297930

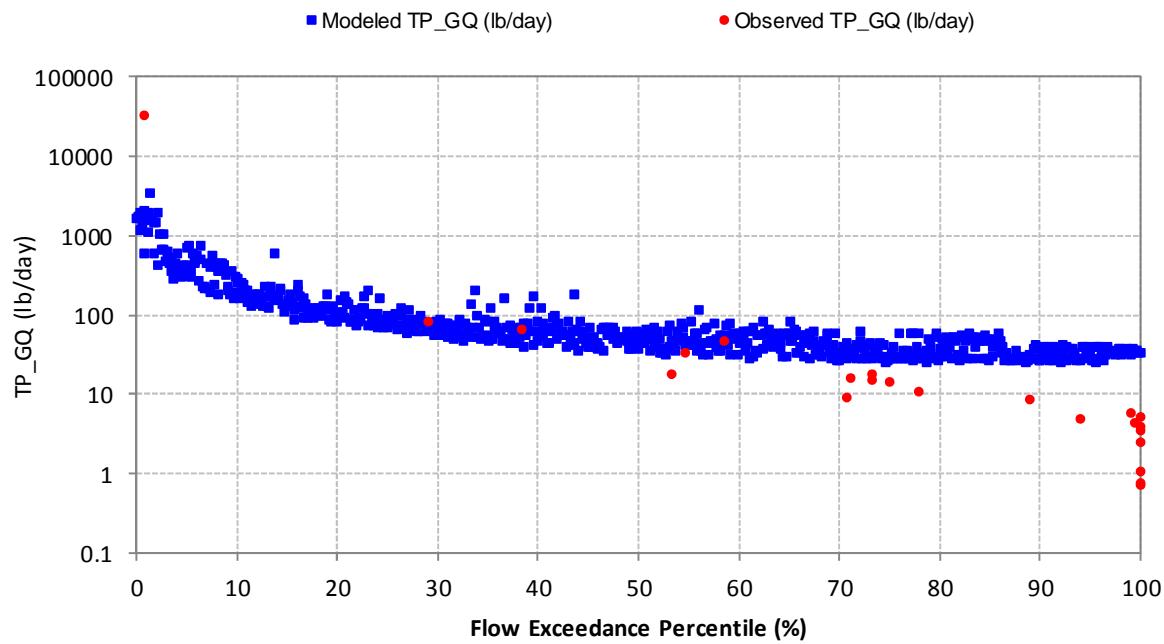


Figure B-91 Modeled vs. Observed Load TP\_GQ at 03297930

Table B-19 Modeled vs. Observed Load TP\_GQ at 03297930

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	41,207	306,717	-86.57	209,623	-80.34
2008	50,971	125,176	-59.28	74,601	-31.67

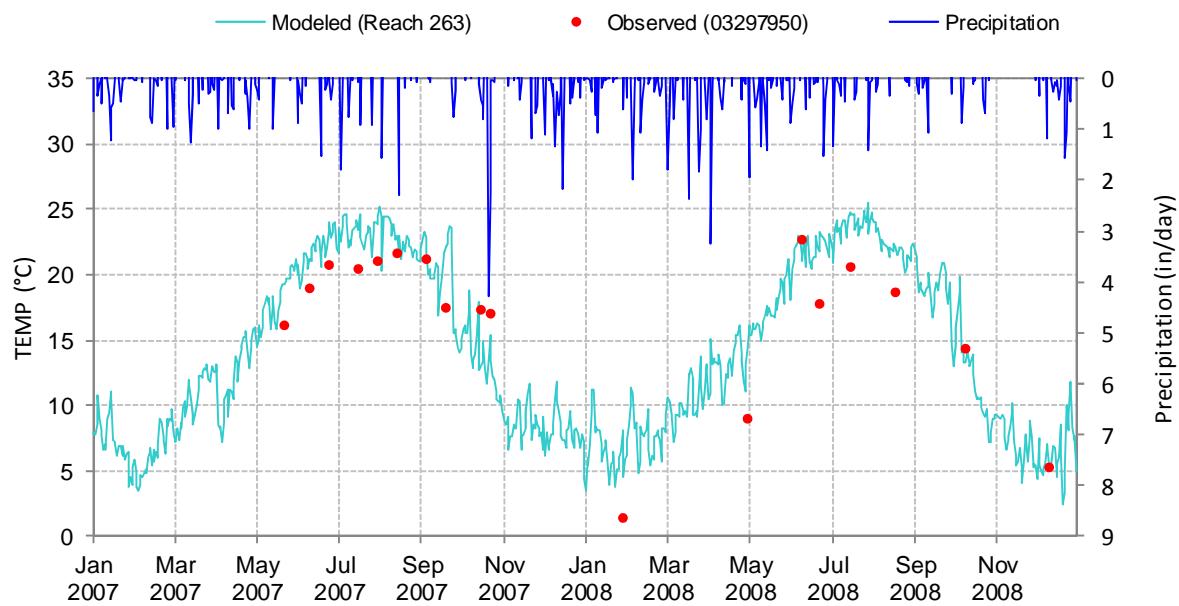


Figure B-92 Modeled vs. Observed TEMP (°C) at 03297950

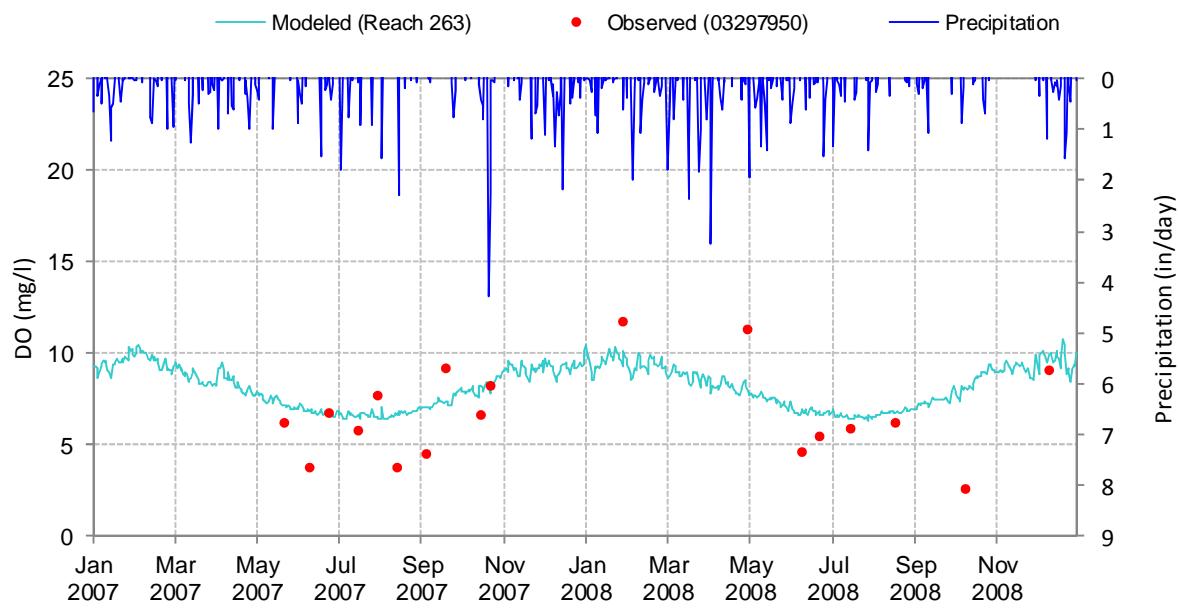


Figure B-93 Modeled vs. Observed DO (mg/l) at 03297950

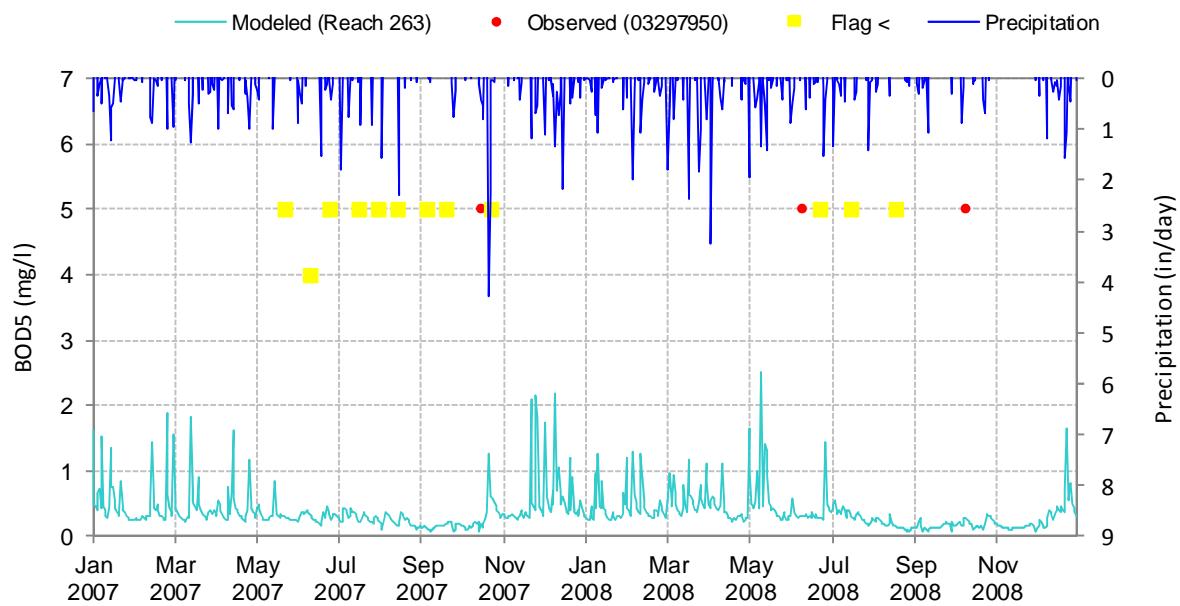


Figure B-94 Modeled vs. Observed BOD5 (mg/l) at 03297950

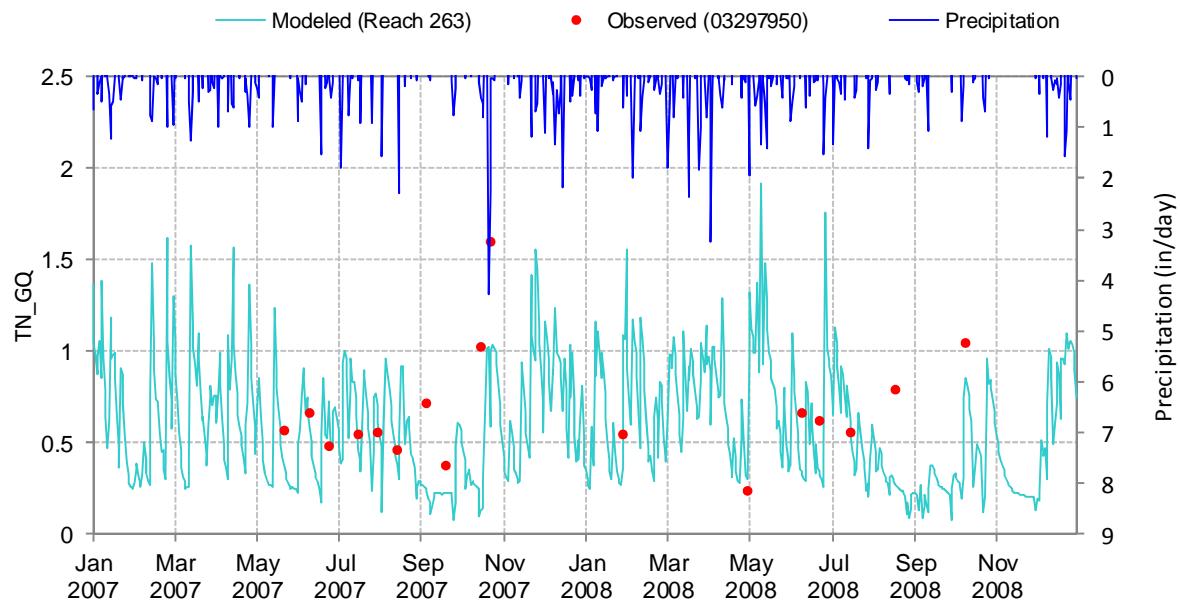


Figure B-95 Modeled vs. Observed TN\_GQ at 03297950

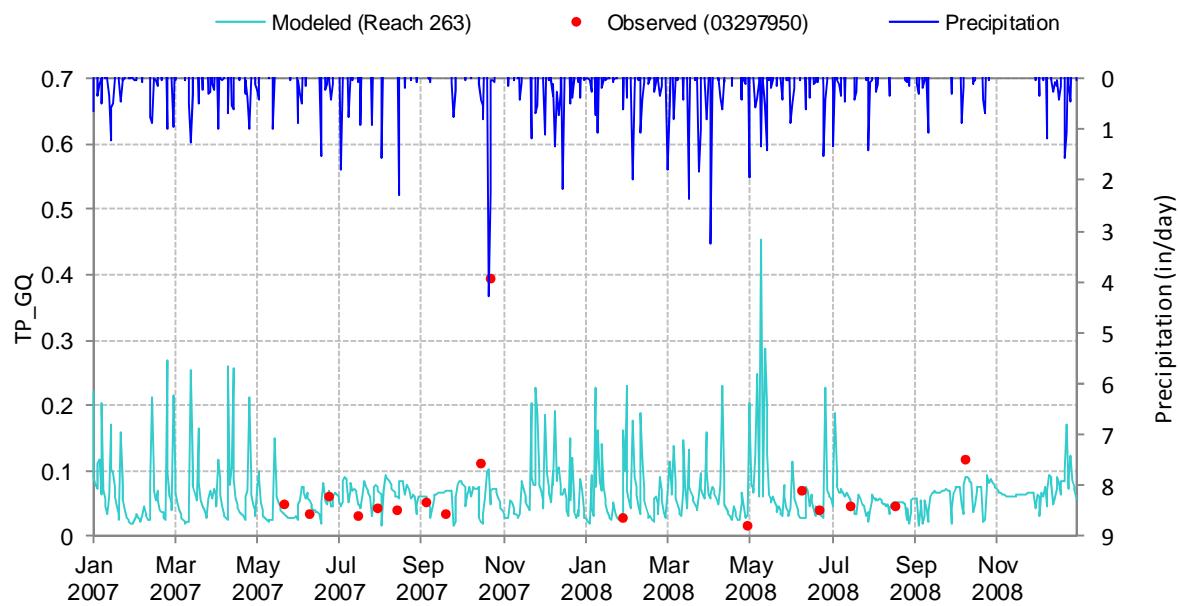


Figure B-96 Modeled vs. Observed TP\_GQ at 03297950

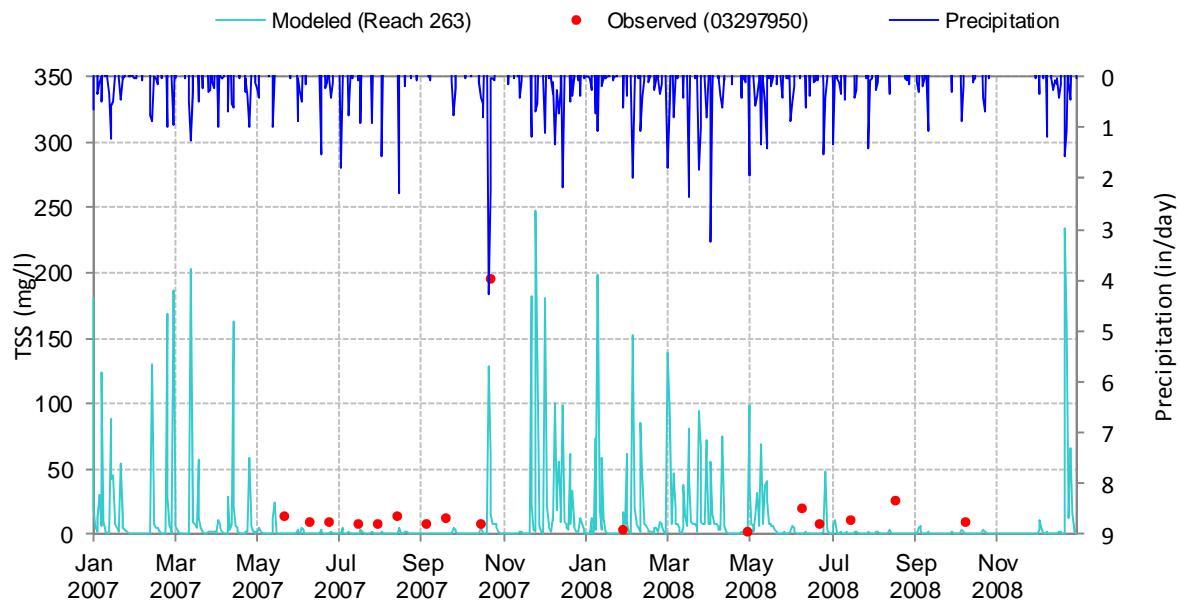


Figure B-97 Modeled vs. Observed TSS (mg/l) at 03297950

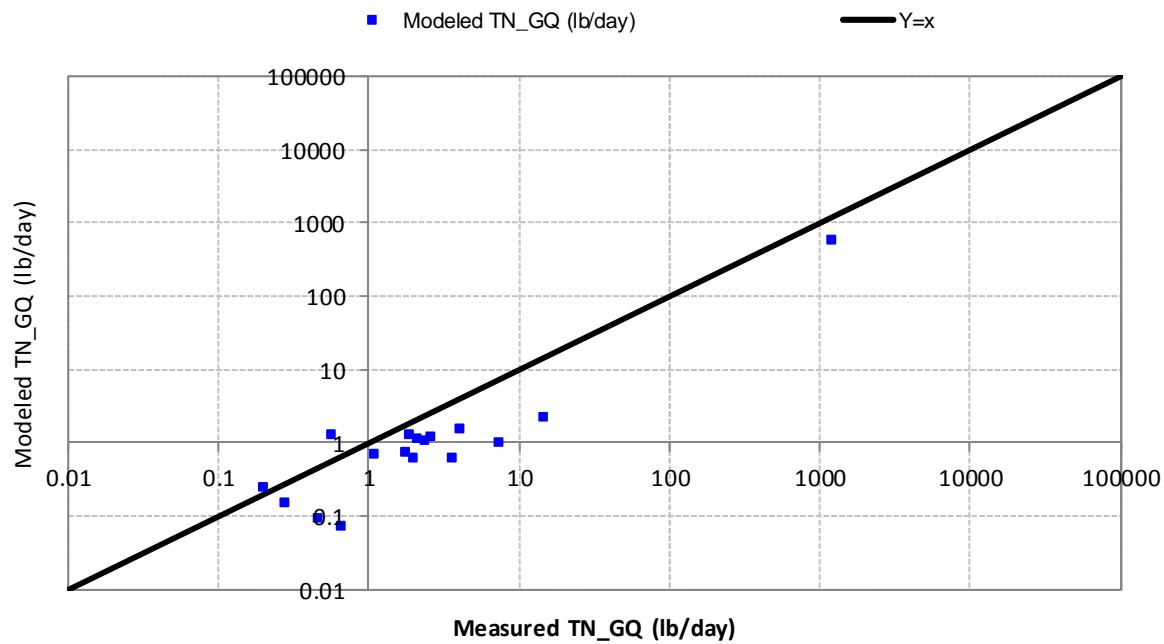


Figure B-98 Modeled vs. Observed Load TN\_GQ at 03297950

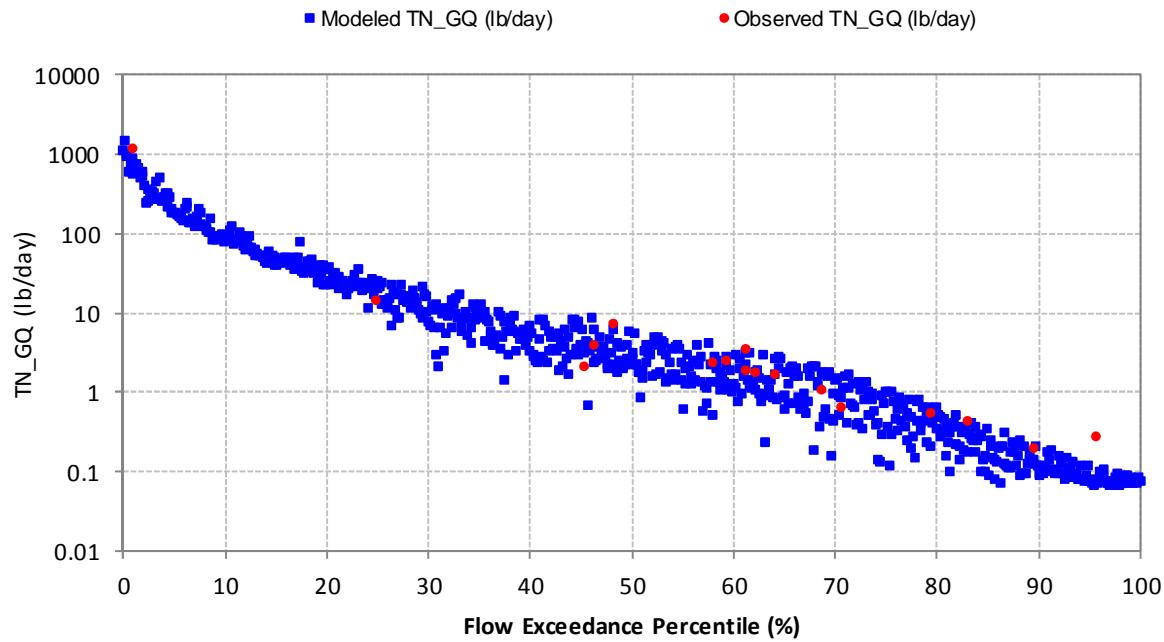


Figure B-99 Modeled vs. Observed Load TN\_GQ at 03297950

Table B-20 Modeled vs. Observed Load TN\_GQ at 03297950

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	13,468	16,545	-18.59	14,010	-3.87	
2008	16,548	12,689	30.41	9,665	71.22	

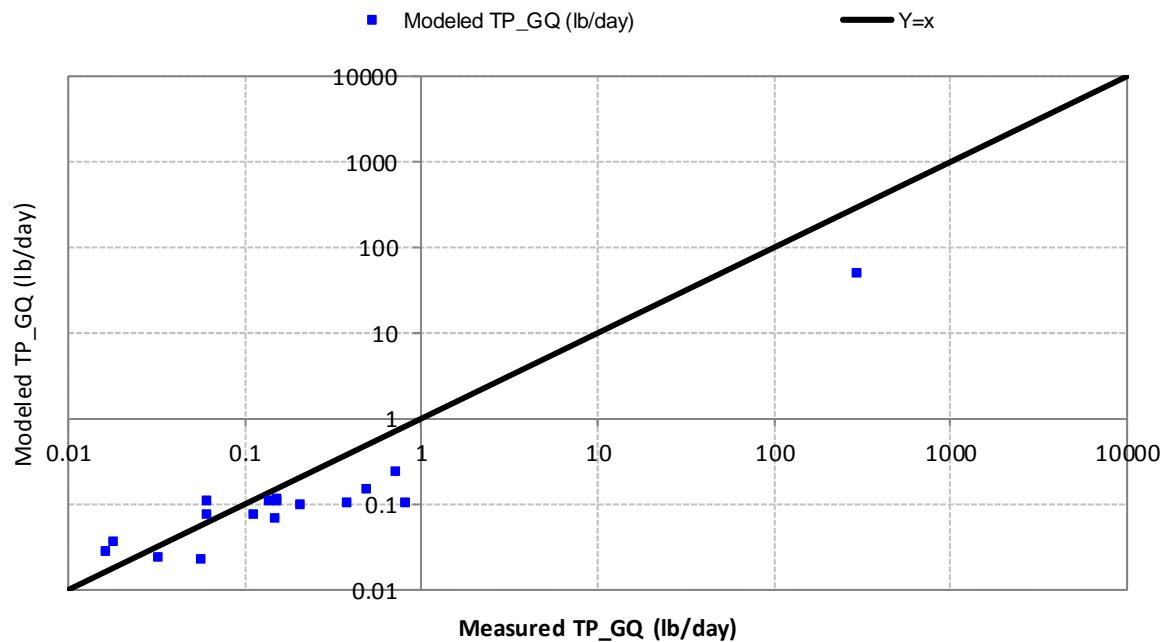


Figure B-100 Modeled vs. Observed Load TP\_GQ at 03297950

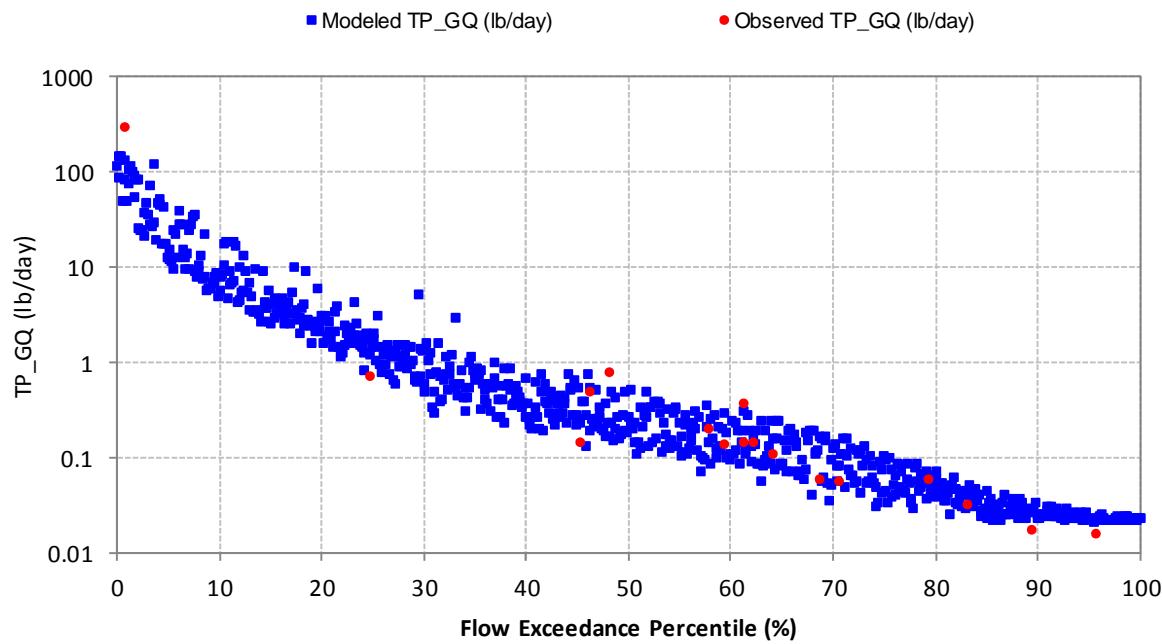


Figure B-101 Modeled vs. Observed Load TP\_GQ at 03297950

Table B-21 Modeled vs. Observed Load TP\_GQ at 03297950

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	1,495	3,108	-51.91	2,210	-32.37
2008	1,965	1,199	63.85	765	156.83

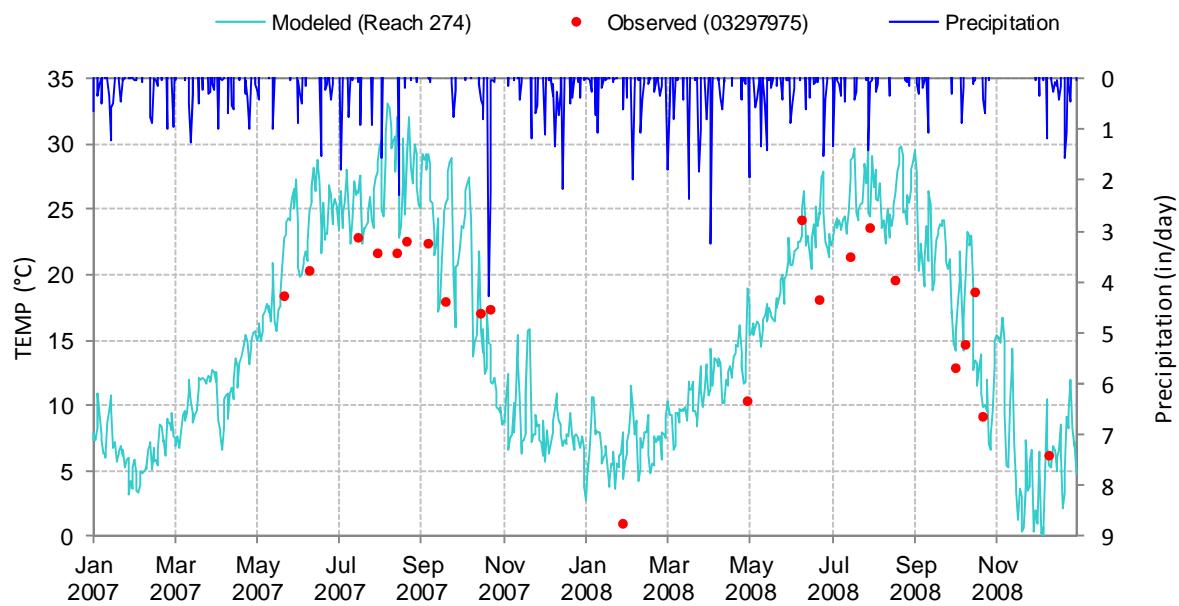


Figure B-102 Modeled vs. Observed TEMP (°C) at 03297975

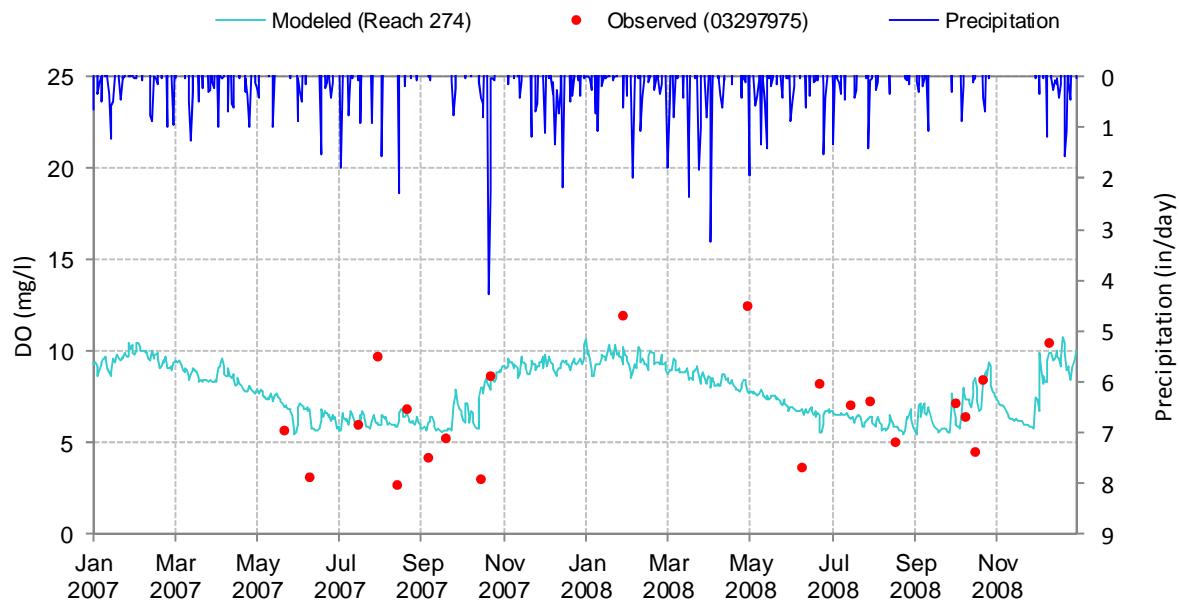


Figure B-103 Modeled vs. Observed DO (mg/l) at 03297975

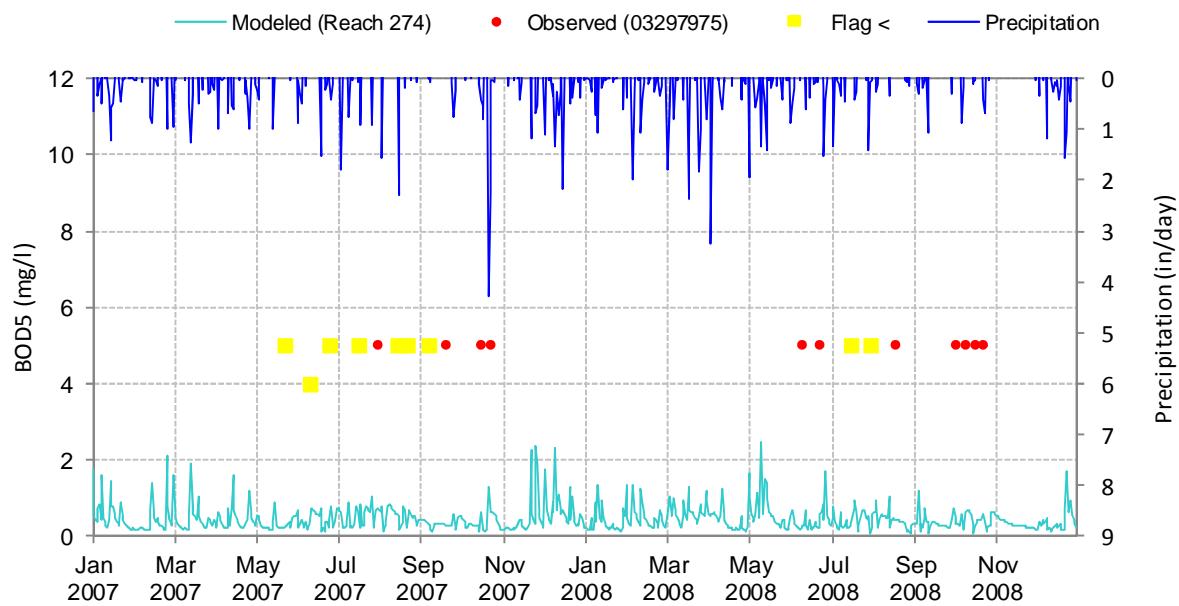


Figure B-104 Modeled vs. Observed BOD5 (mg/l) at 03297975

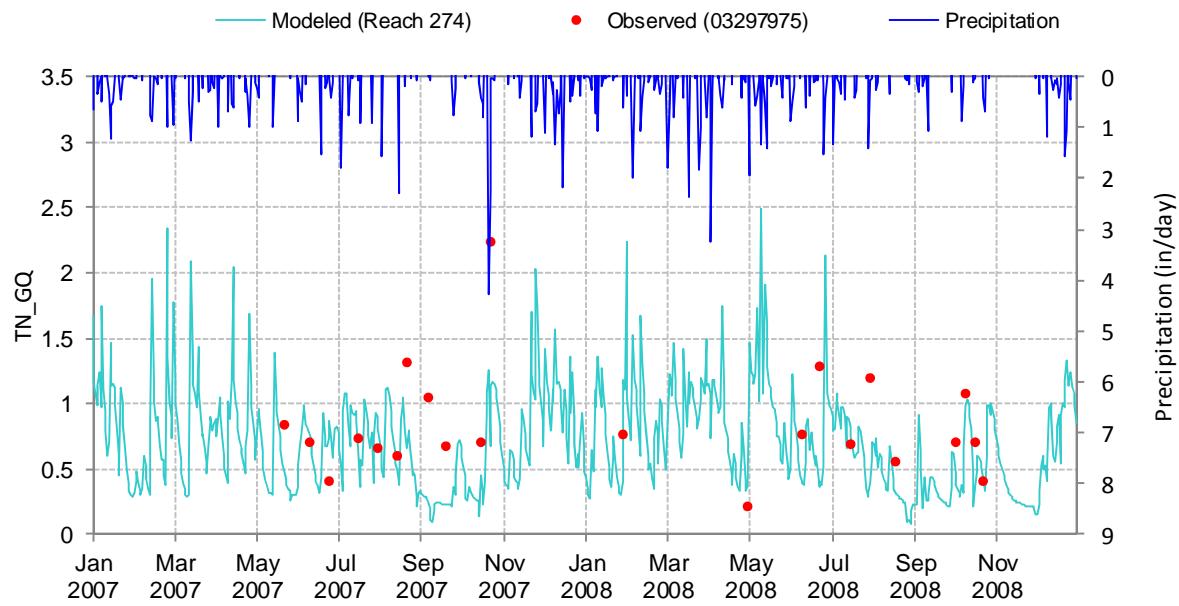


Figure B-105 Modeled vs. Observed TN\_GQ at 03297975

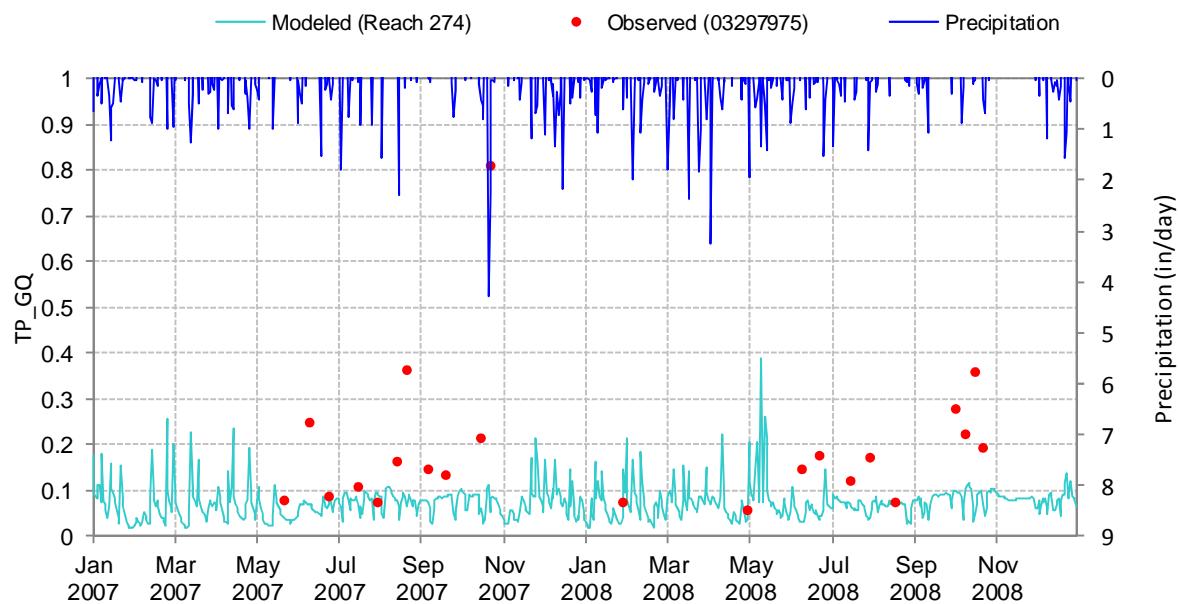


Figure B-106 Modeled vs. Observed TP\_GQ at 03297975

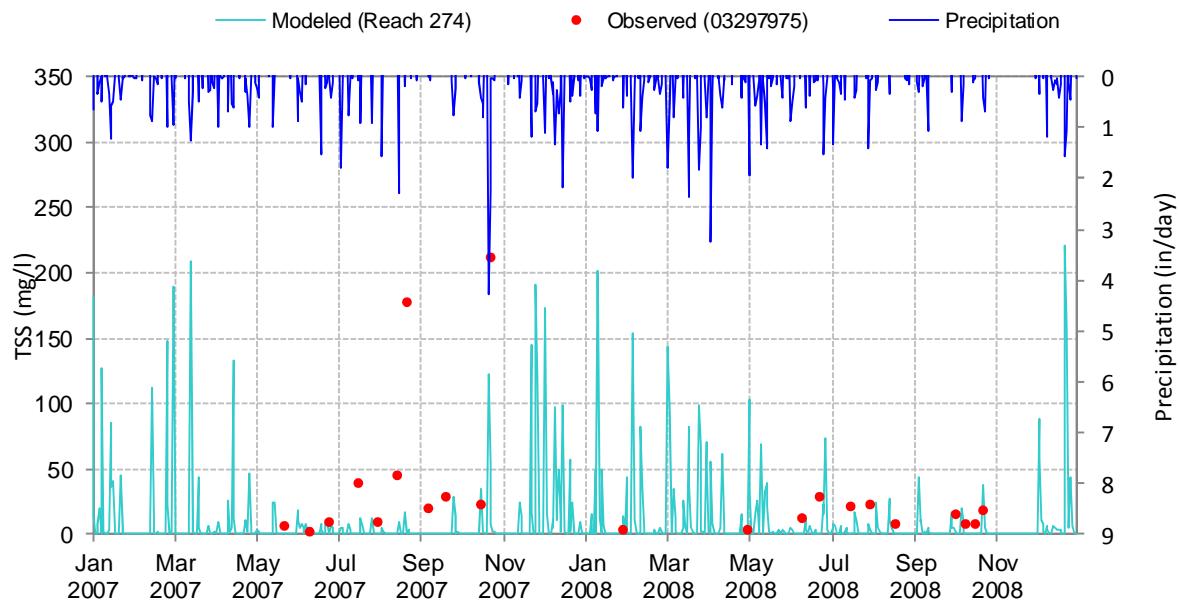


Figure B-107 Modeled vs. Observed TSS (mg/l) at 03297975

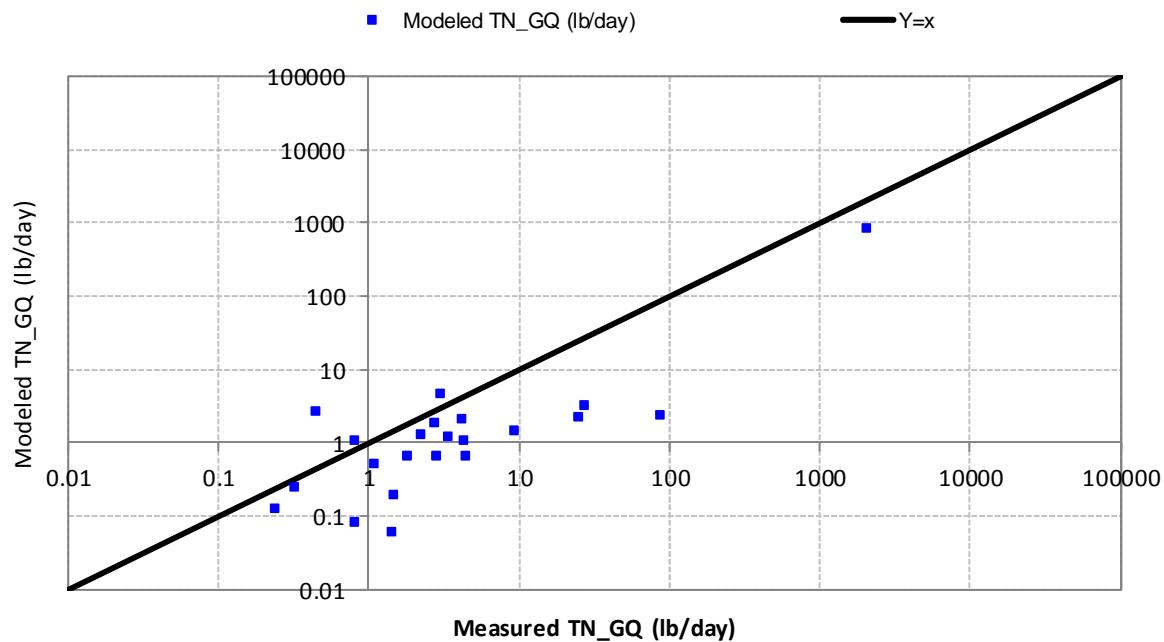


Figure B-108 Modeled vs. Observed Load TN\_GQ at 03297975

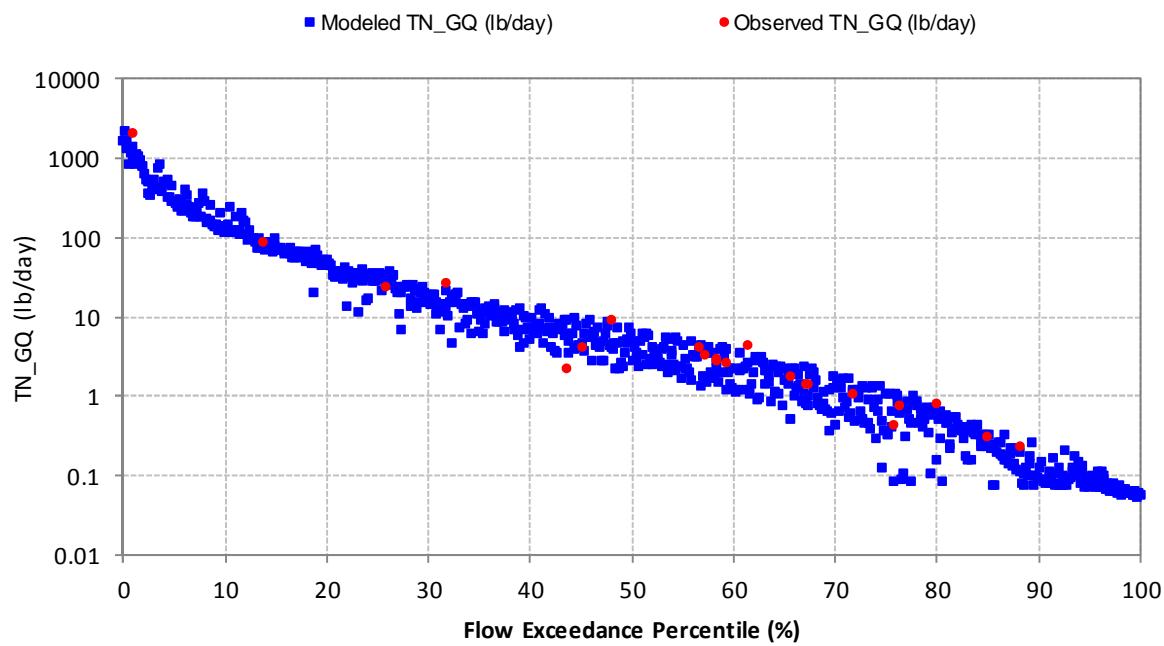


Figure B-109 Modeled vs. Observed Load TN\_GQ at 03297975

Table B-22 Modeled vs. Observed Load TN\_GQ at 03297975

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	20,359	28,634	-28.9	24,318	-16.28	
2008	25,527	20,106	26.96	13,779	85.26	

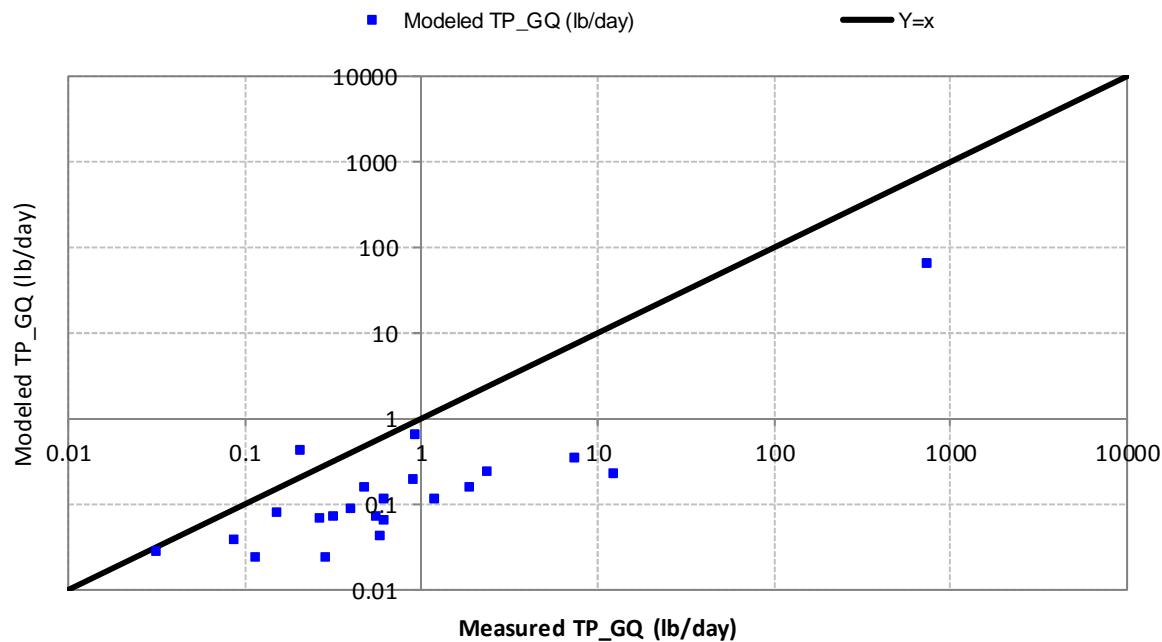


Figure B-110 Modeled vs. Observed Load TP\_GQ at 03297975

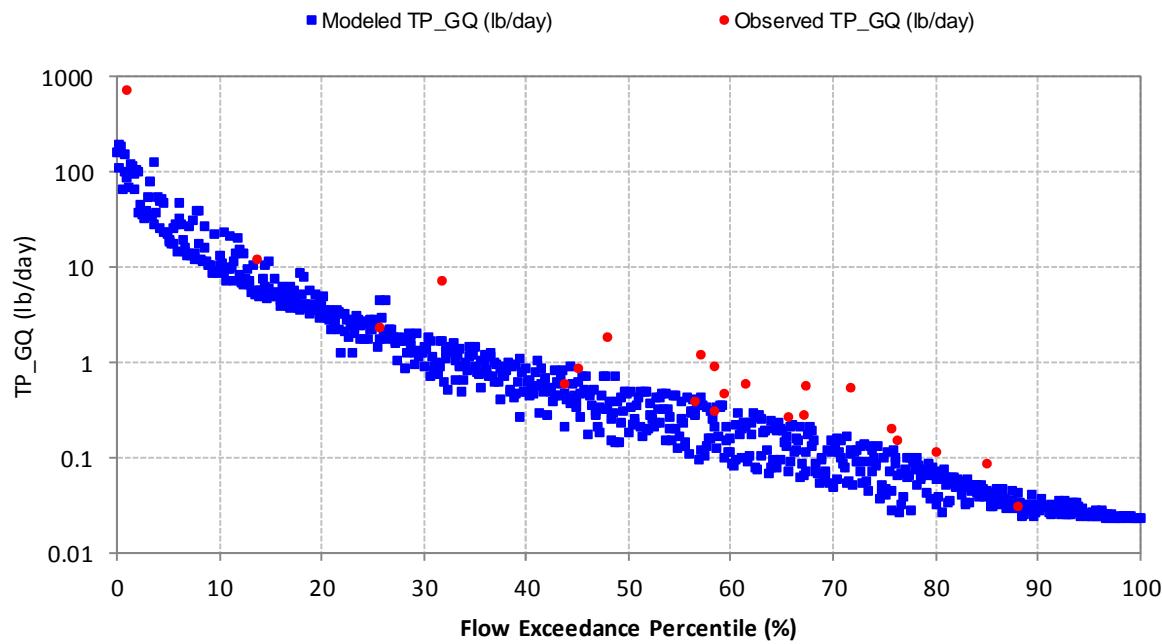


Figure B-111 Modeled vs. Observed Load TP\_GQ at 03297975

Table B-23 Modeled vs. Observed Load TP\_GQ at 03297975

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	1,857	7,586	-75.52	5,401	-65.62
2008	2,433	3,385	-28.13	2,279	6.73

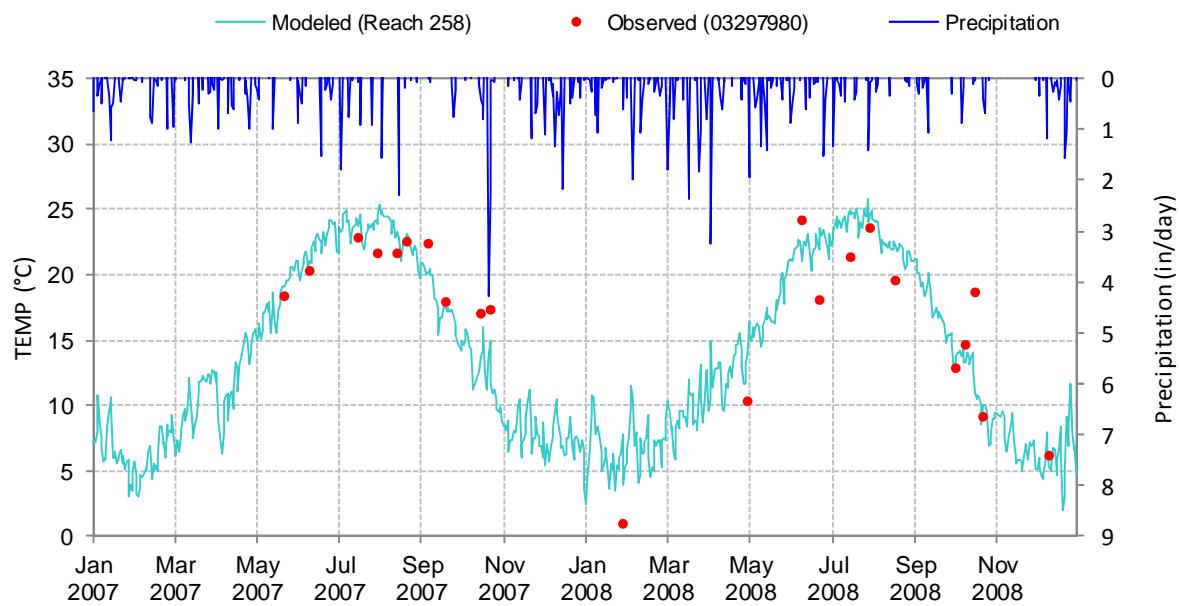


Figure B-112 Modeled vs. Observed TEMP (°C) at 03297980

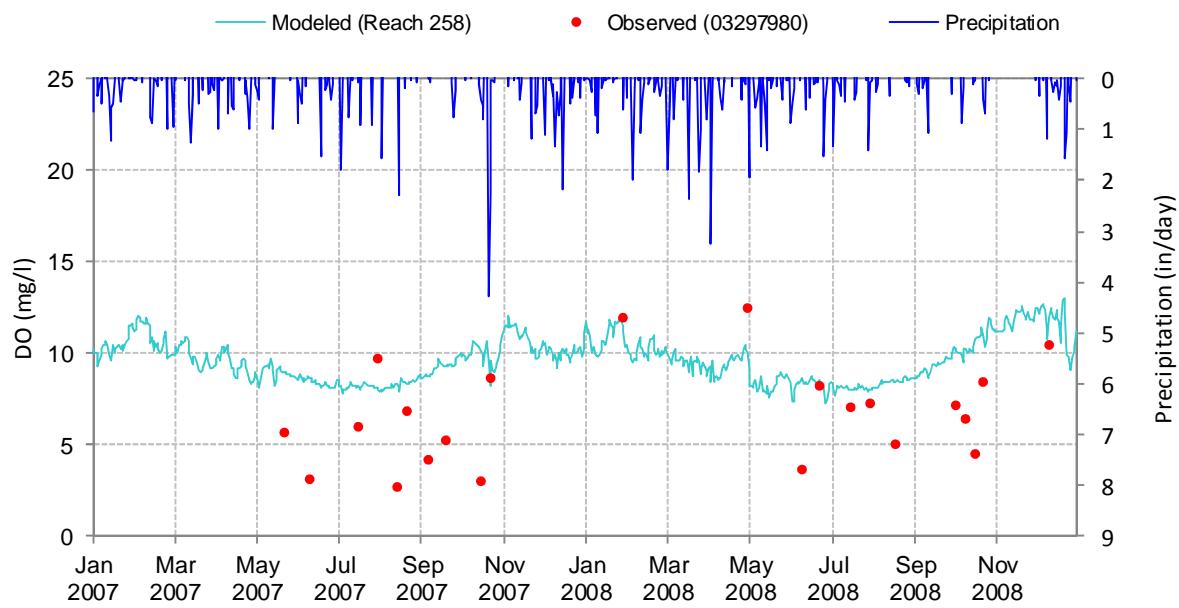


Figure B-113 Modeled vs. Observed DO (mg/l) at 03297980

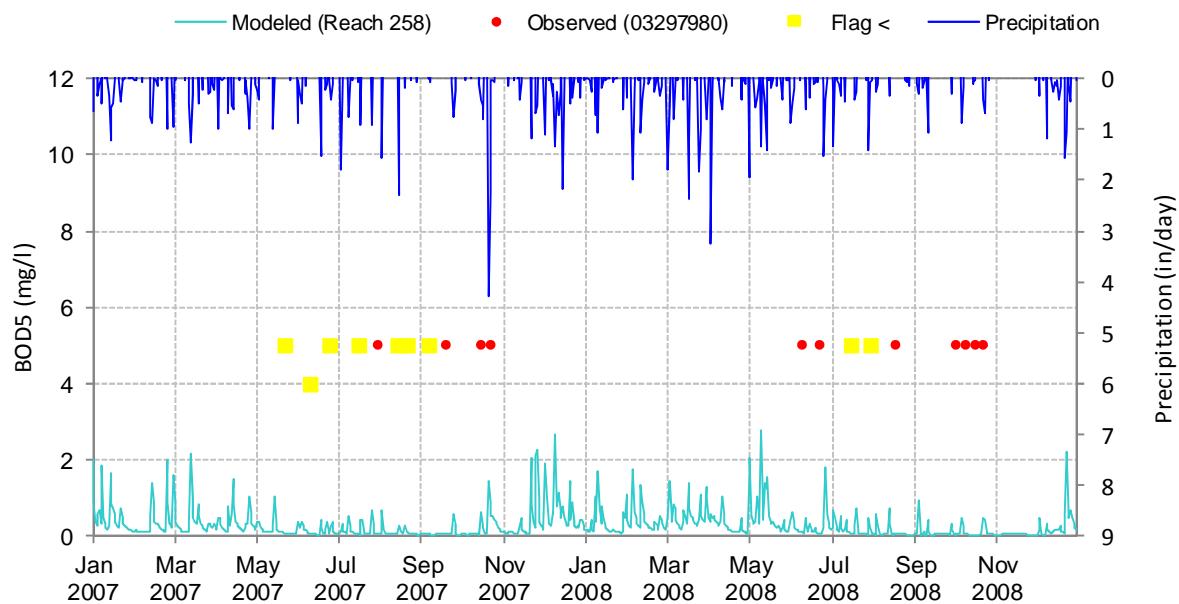


Figure B-114 Modeled vs. Observed BOD5 (mg/l) at 03297980

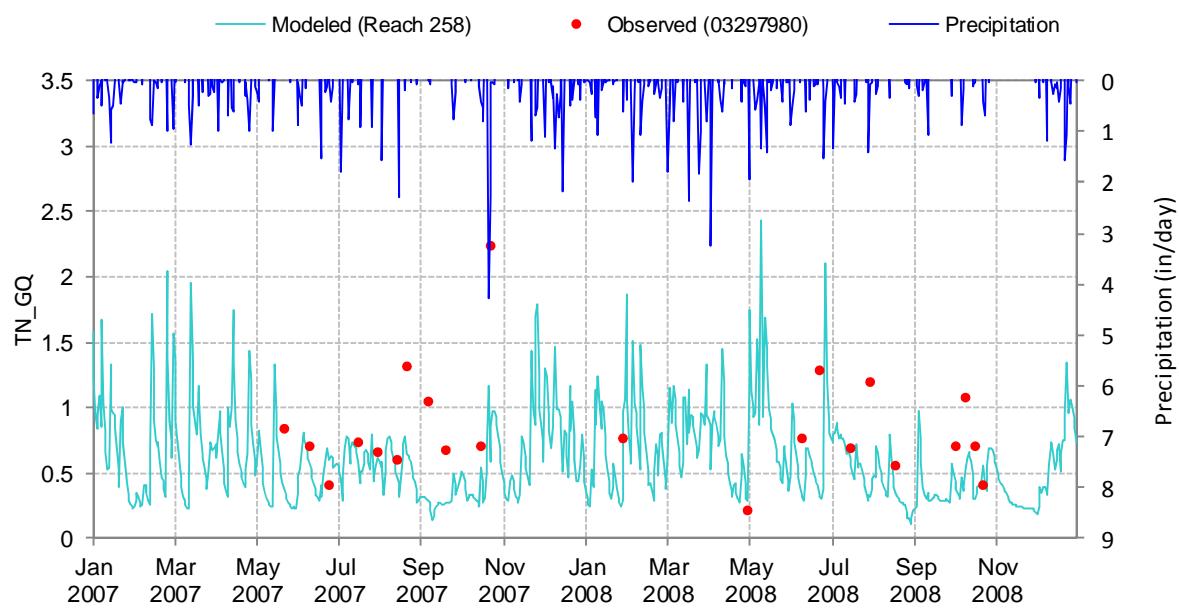


Figure B-115 Modeled vs. Observed TN\_GQ at 03297980

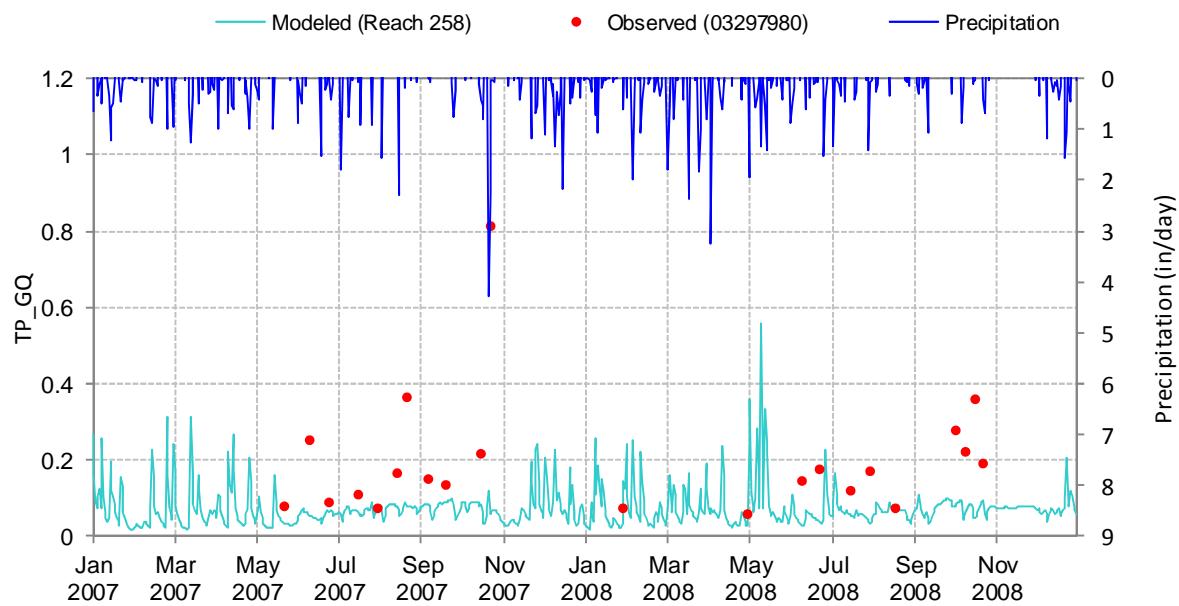


Figure B-116 Modeled vs. Observed TP\_GQ at 03297980

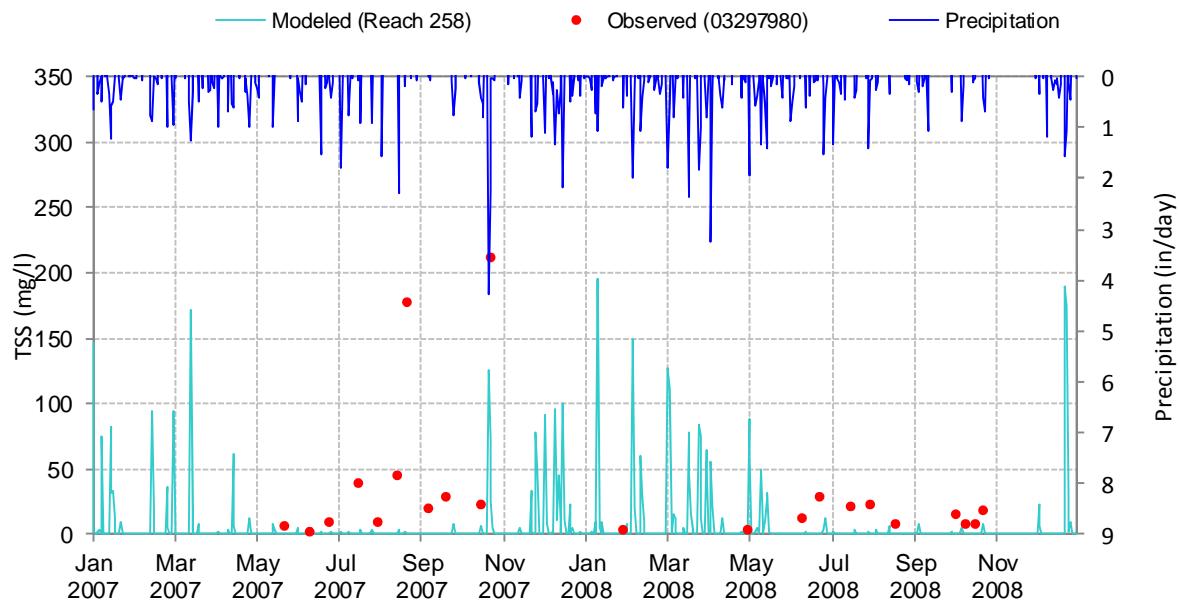


Figure B-117 Modeled vs. Observed TSS (mg/l) at 03297980

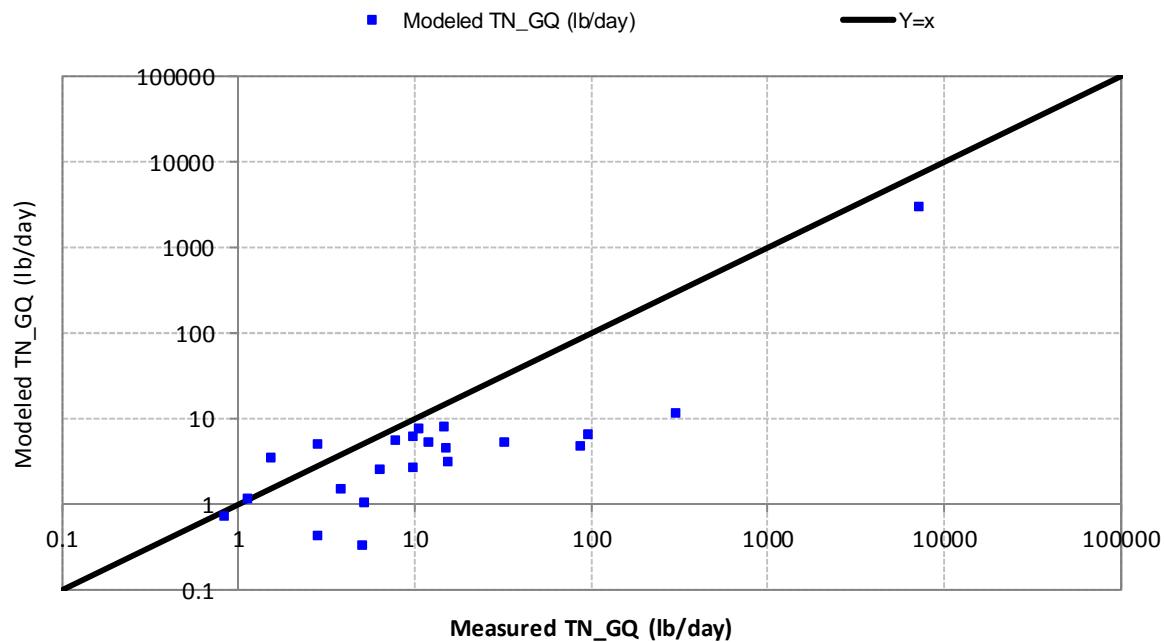


Figure B-118 Modeled vs. Observed Load TN\_GQ at 03297980

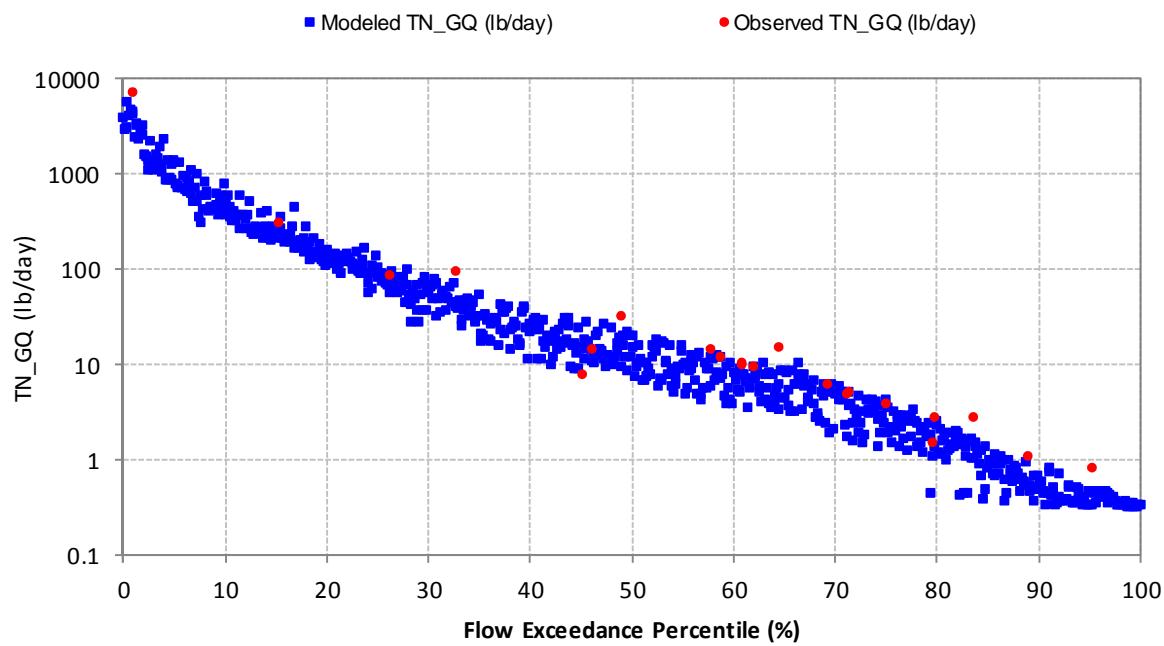


Figure B-119 Modeled vs. Observed Load TN\_GQ at 03297980

Table B-24 Modeled vs. Observed Load TN\_GQ at 03297980

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	60,368	100,921	-40.18	85,712	-29.57	
2008	77,990	70,865	10.05	48,564	60.59	

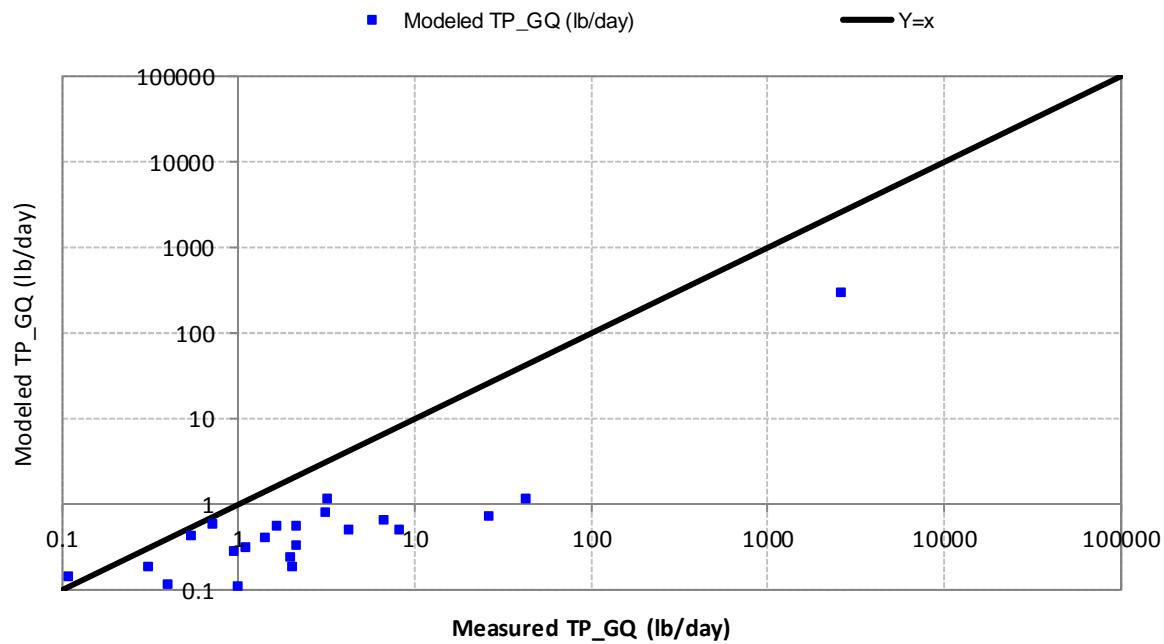


Figure B-120 Modeled vs. Observed Load TP\_GQ at 03297980

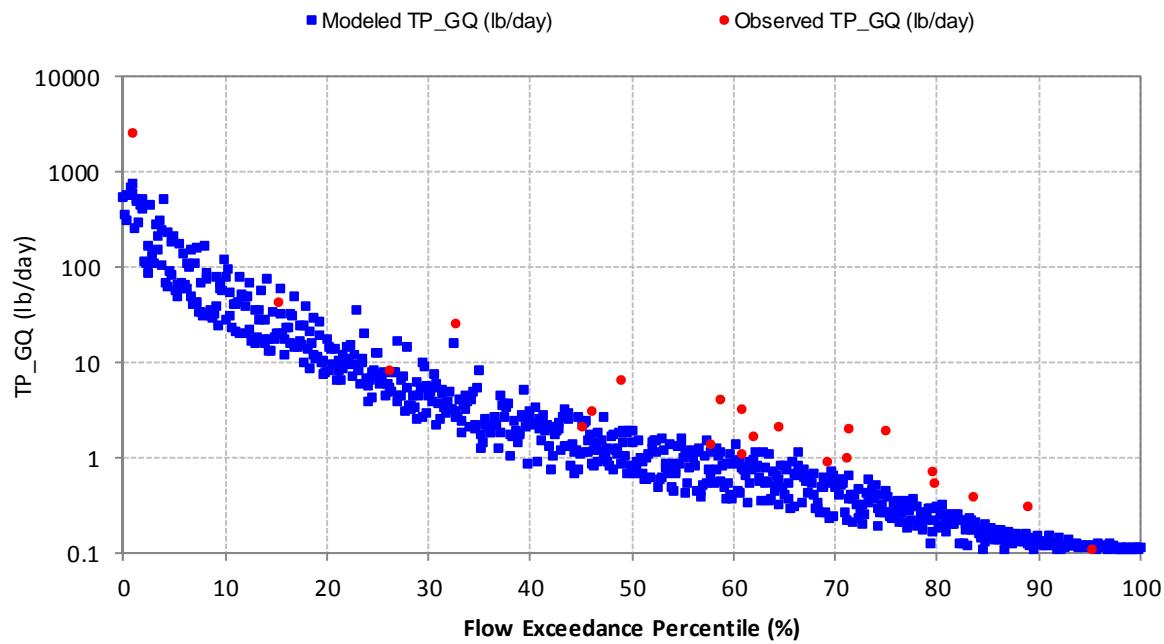


Figure B-121 Modeled vs. Observed Load TP\_GQ at 03297980

Table B-25 Modeled vs. Observed Load TP\_GQ at 03297980

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	7,046	26,736	-73.64	19,036	-62.98
2008	10,226	11,930	-14.29	8,066	26.78

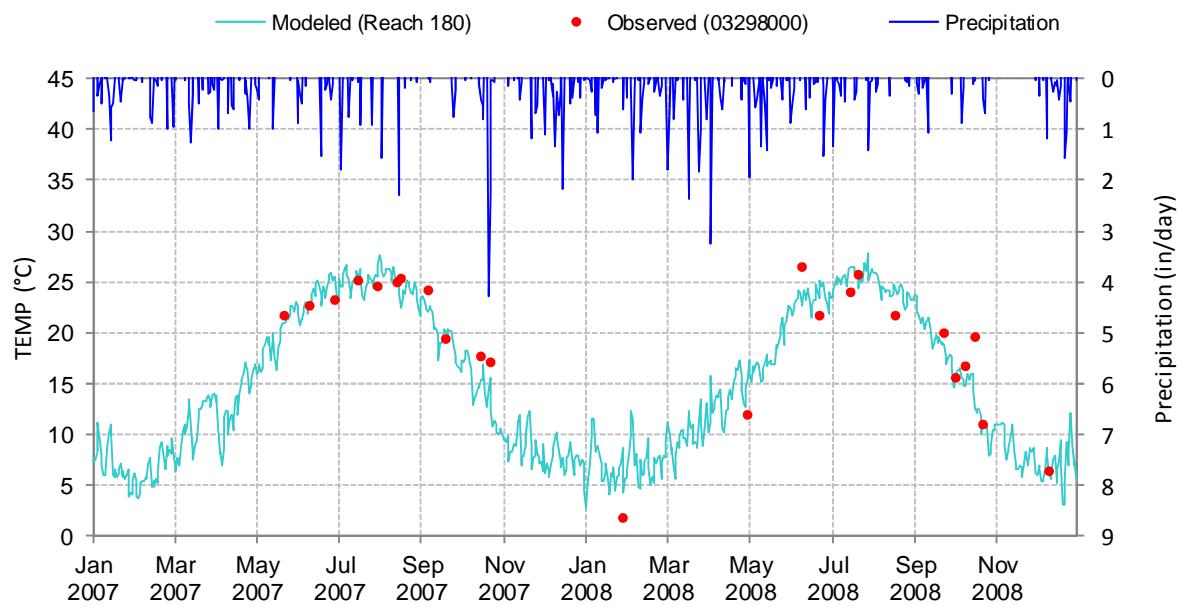
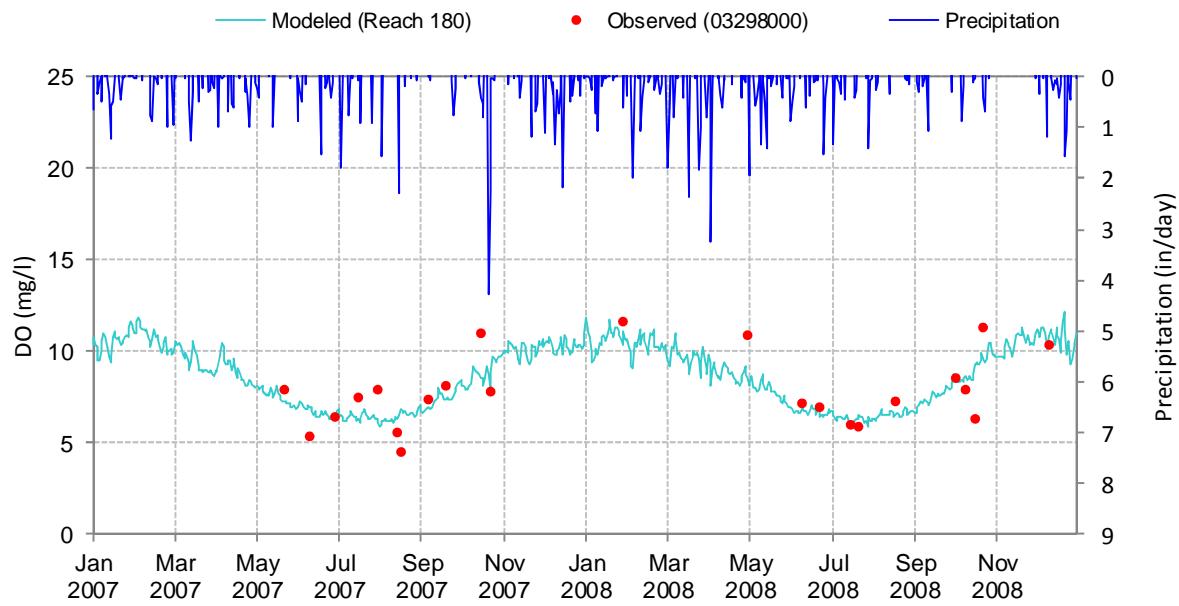
Figure B-122 Modeled vs. Observed TEMP ( $^{\circ}\text{C}$ ) at 03298000

Figure B-123 Modeled vs. Observed DO (mg/l) at 03298000

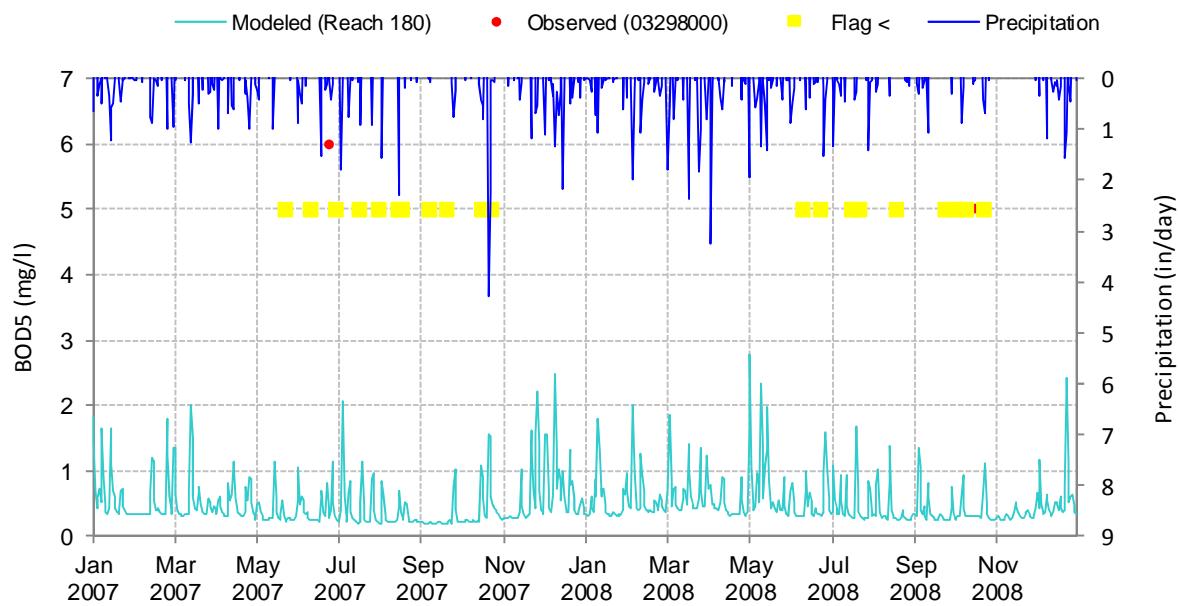


Figure B-124 Modeled vs. Observed BOD5 (mg/l) at 03298000

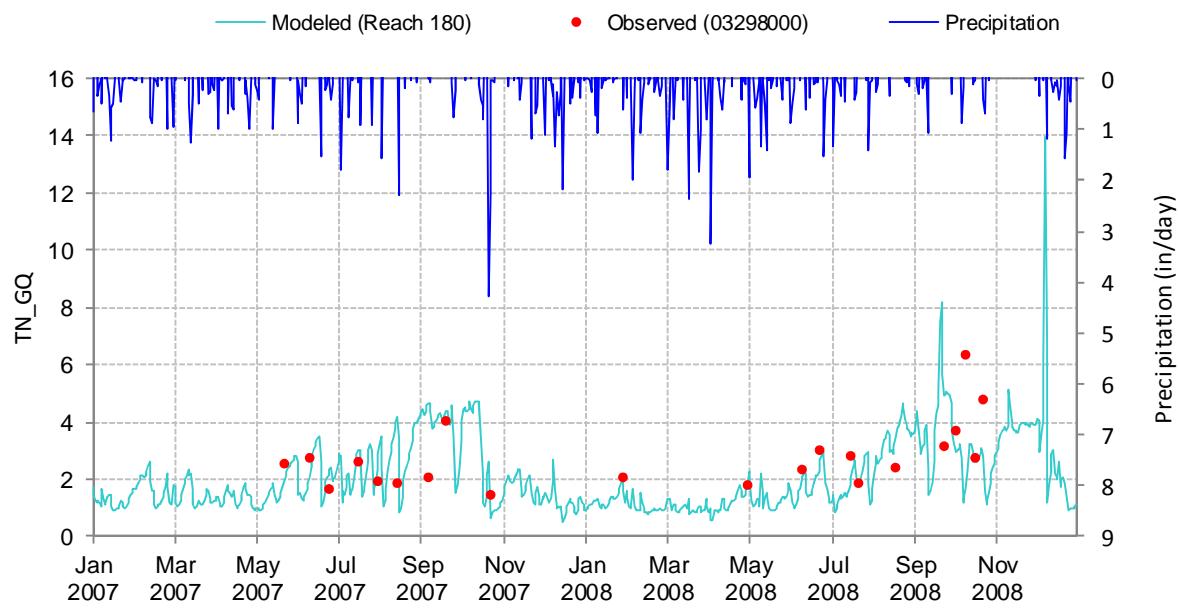


Figure B-125 Modeled vs. Observed TN\_GQ at 03298000

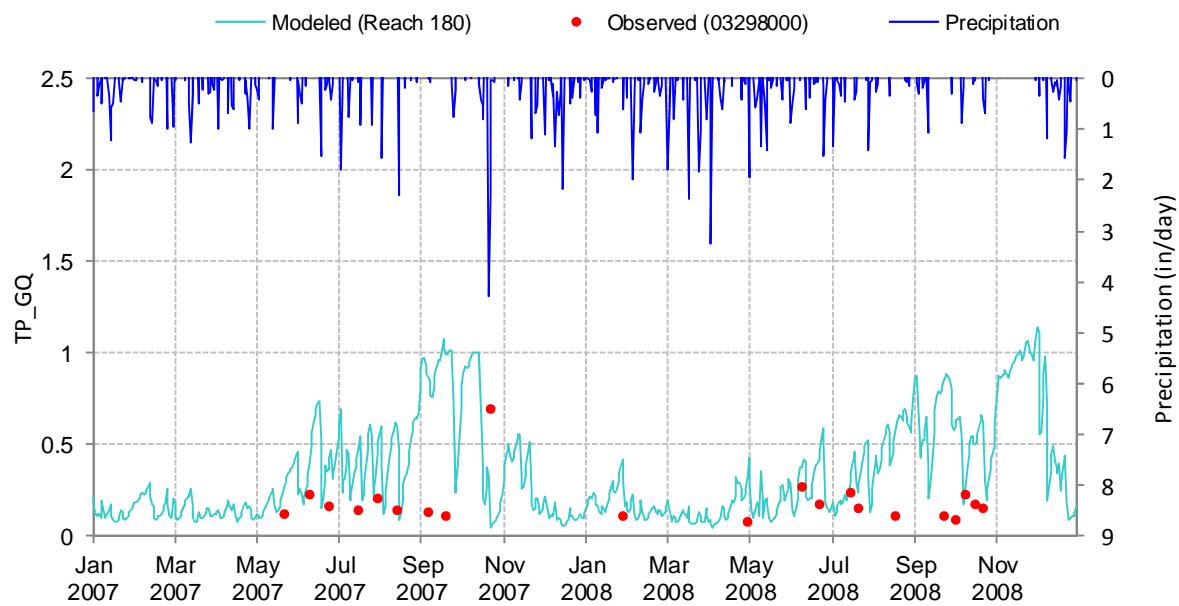


Figure B-126 Modeled vs. Observed TP\_GQ at 03298000

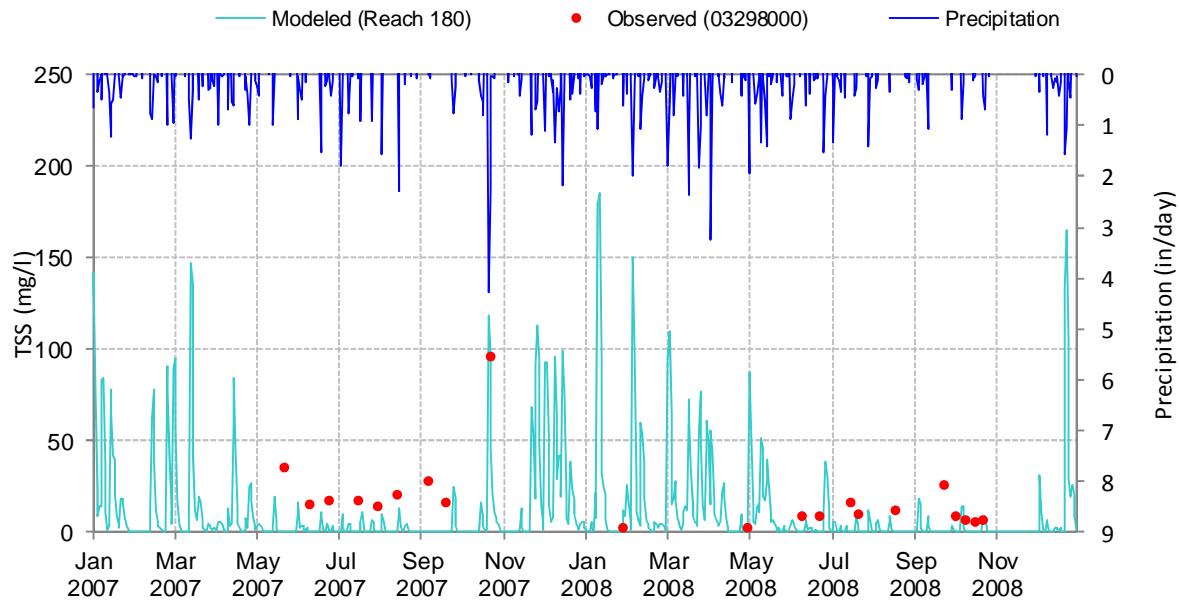


Figure B-127 Modeled vs. Observed TSS (mg/l) at 03298000

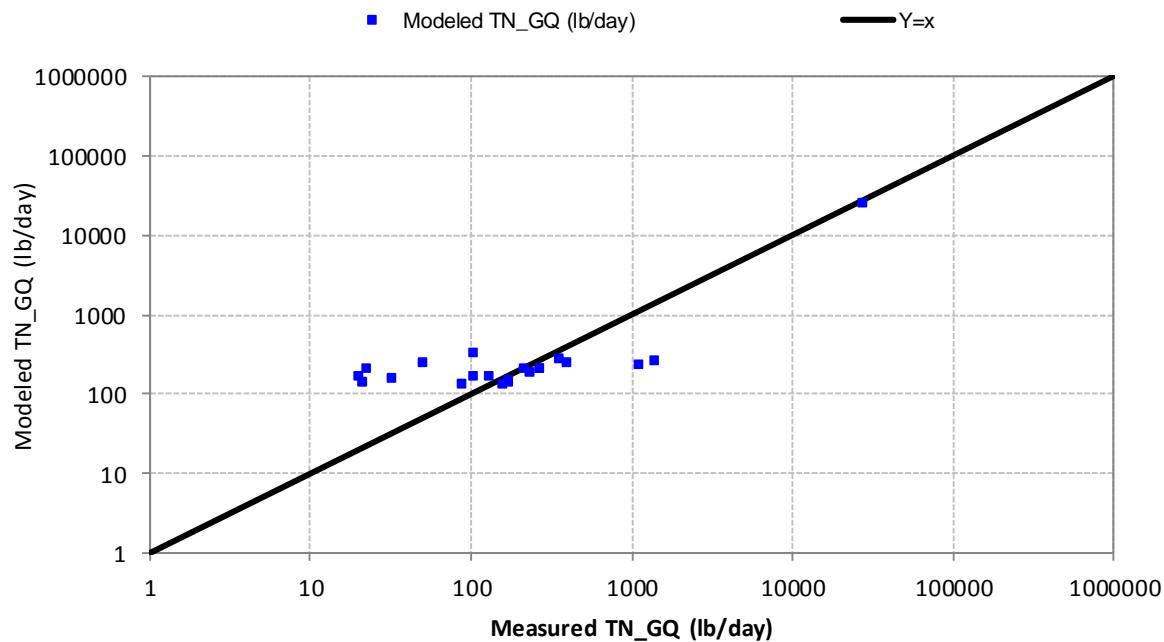


Figure B-128 Modeled vs. Observed Load TN\_GQ at 03298000

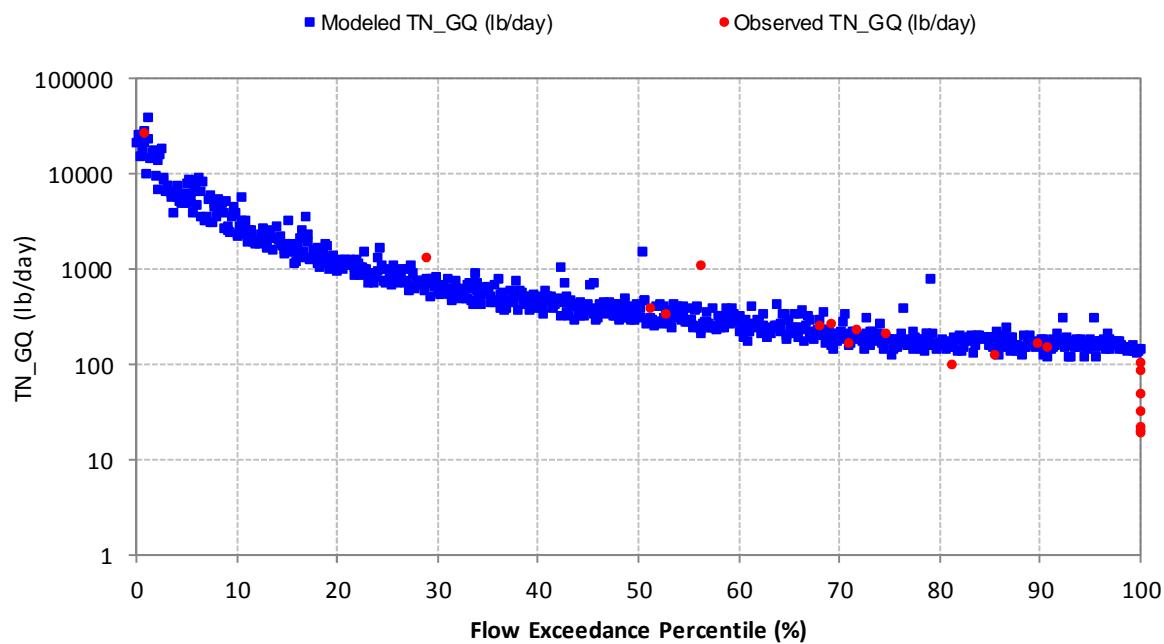


Figure B-129 Modeled vs. Observed Load TN\_GQ at 03298000

Table B-26 Modeled vs. Observed Load TN\_GQ at 03298000

Year	Simulated	Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	465,185	917,430	-49.29	952,955	-51.19
2008	541,747	1,117,775	-51.53	1,107,218	-51.07

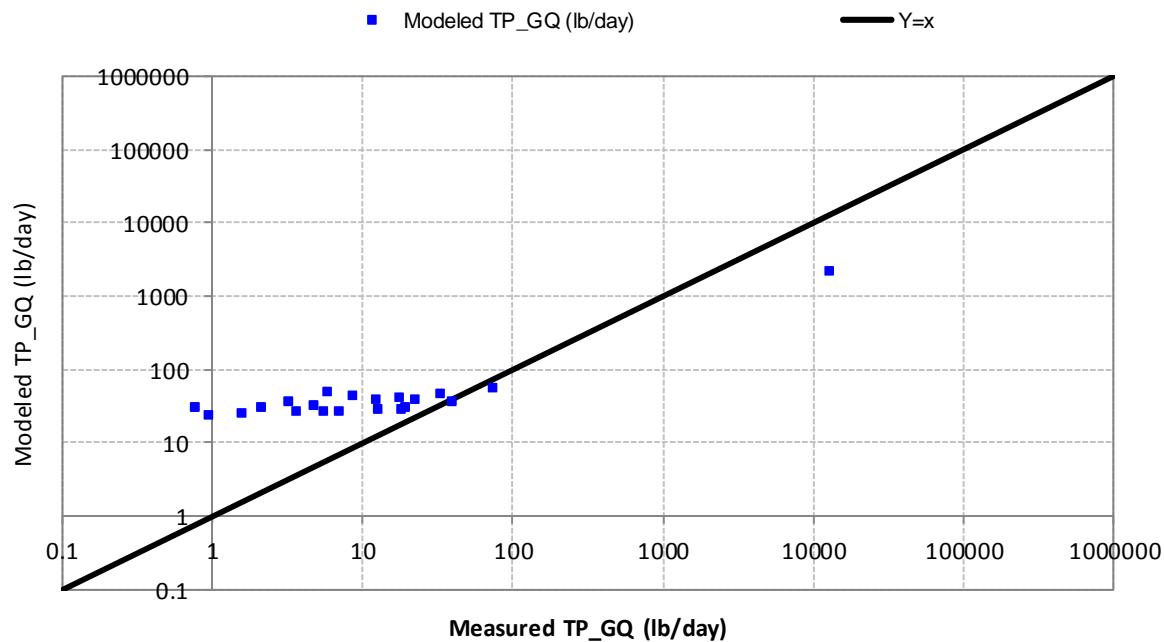


Figure B-130 Modeled vs. Observed Load TP\_GQ at 03298000

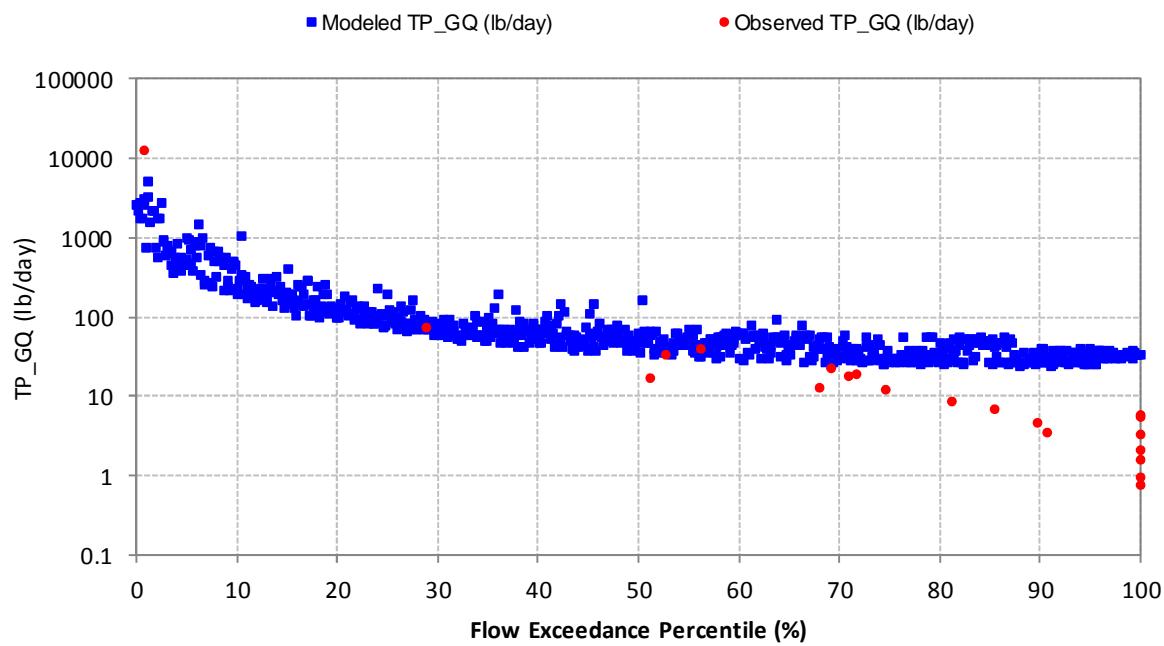


Figure B-131 Modeled vs. Observed Load TP\_GQ at 03298000

Table B-27 Modeled vs. Observed Load TP\_GQ at 03298000

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	51,473	146,358	-64.83	112,250	-54.14
2008	65,748	79,183	-16.97	63,578	3.41

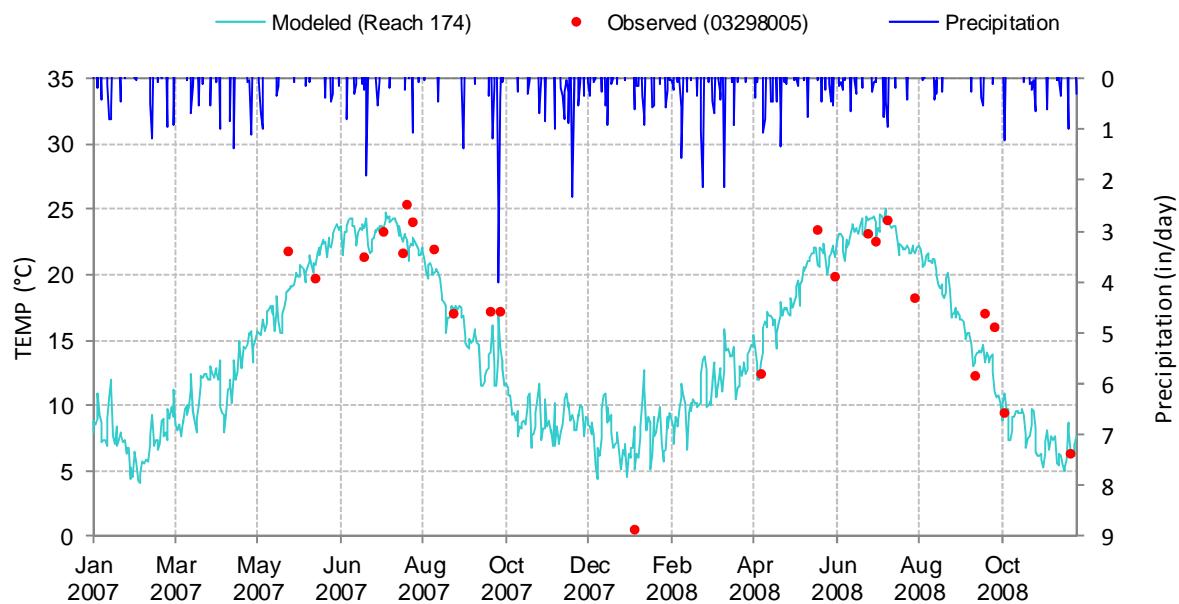


Figure B-132 Modeled vs. Observed TEMP (°C) at 03298005

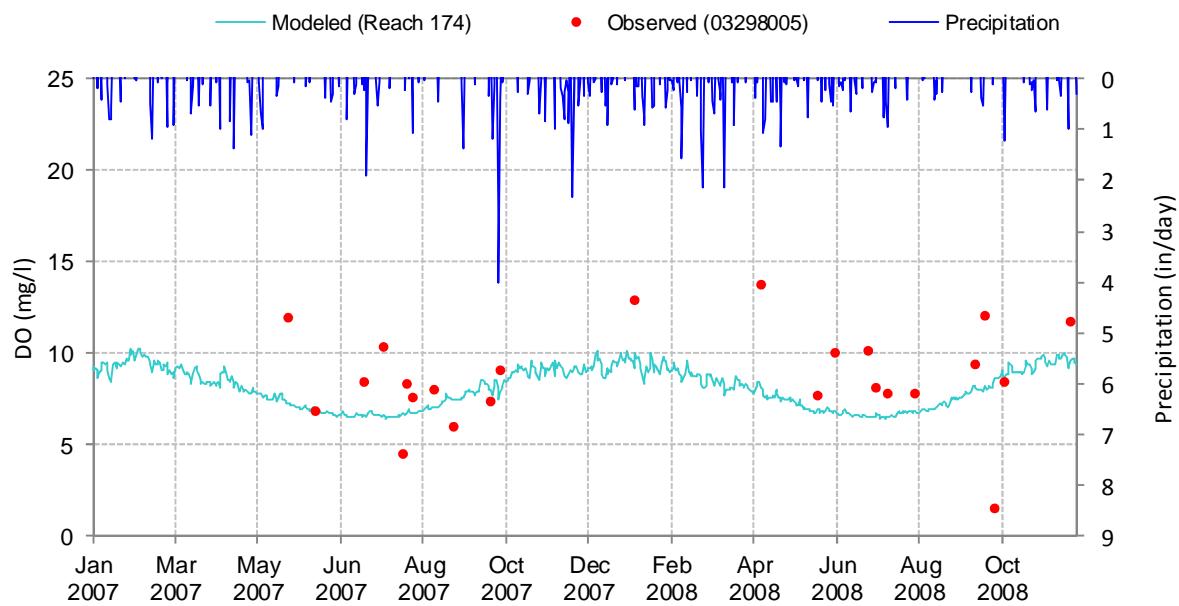


Figure B-133 Modeled vs. Observed DO (mg/l) at 03298005

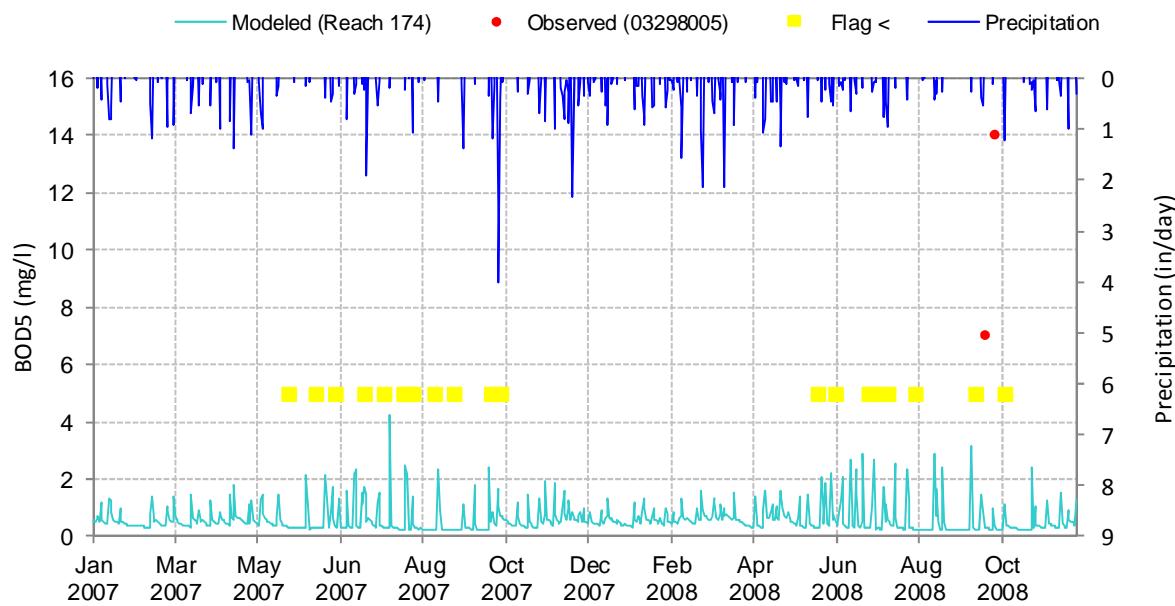


Figure B-134 Modeled vs. Observed BOD5 (mg/l) at 03298005

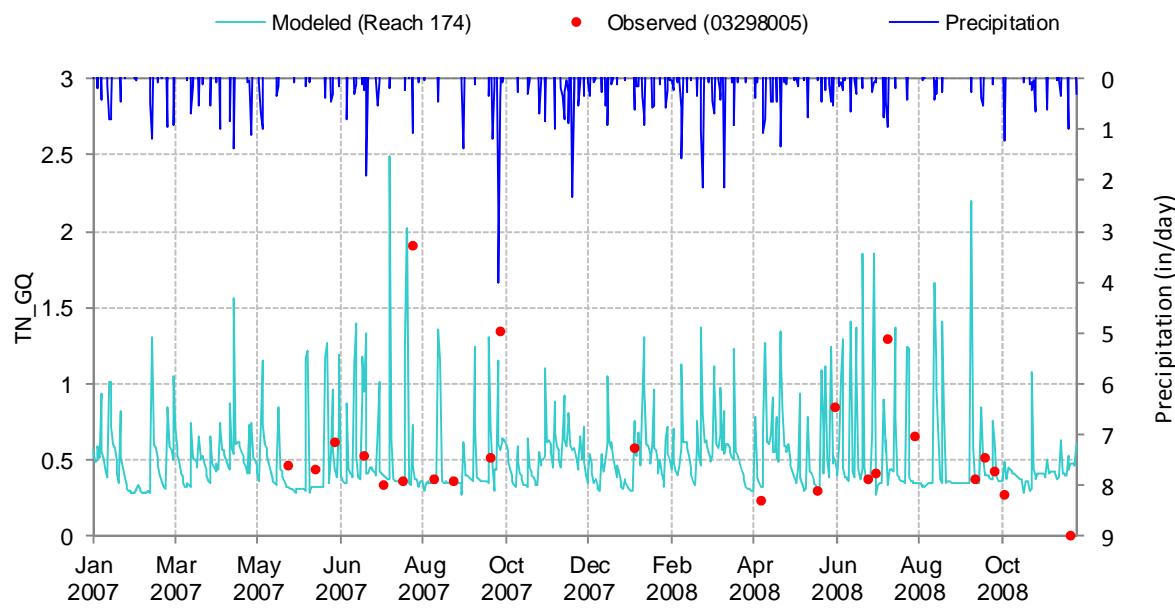


Figure B-135 Modeled vs. Observed TN\_GQ at 03298005

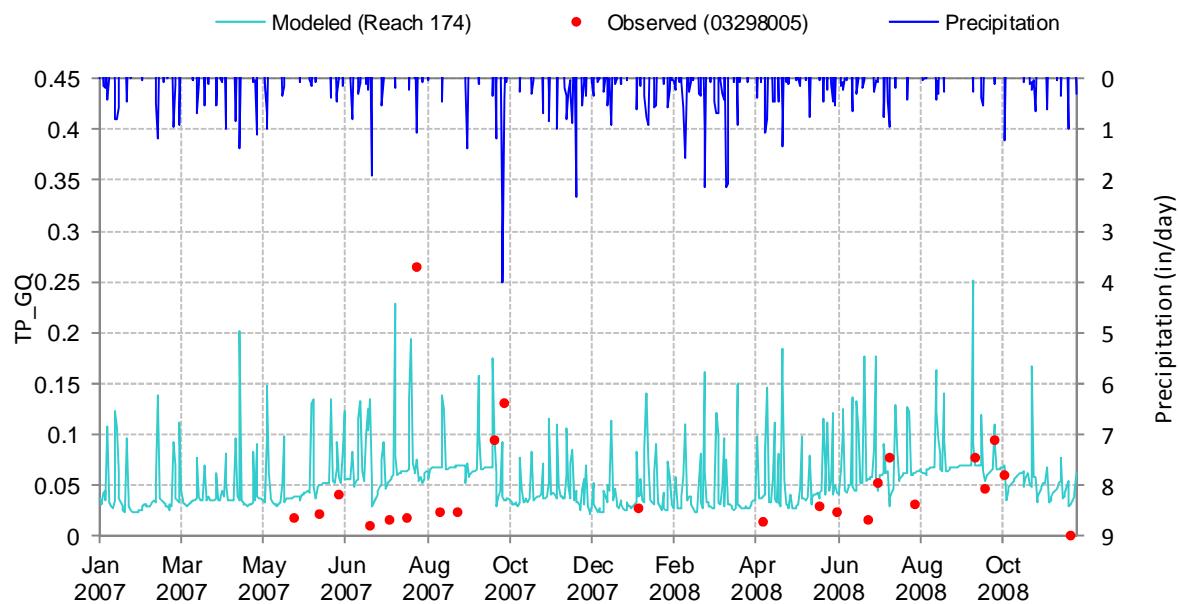


Figure B-136 Modeled vs. Observed TP\_GQ at 03298005

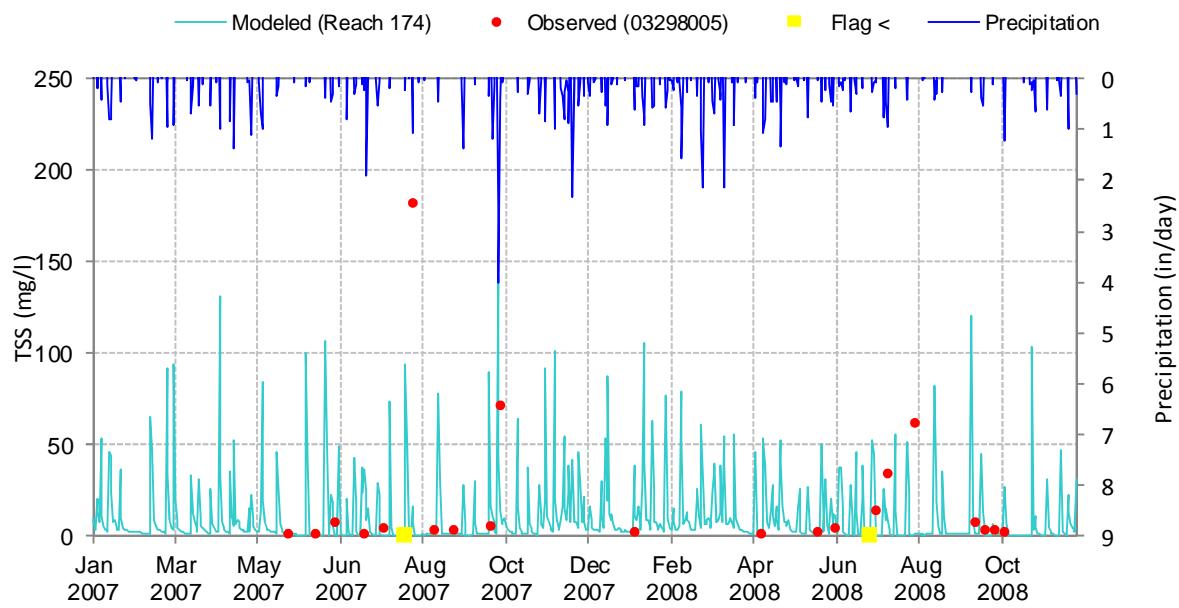


Figure B-137 Modeled vs. Observed TSS (mg/l) at 03298005

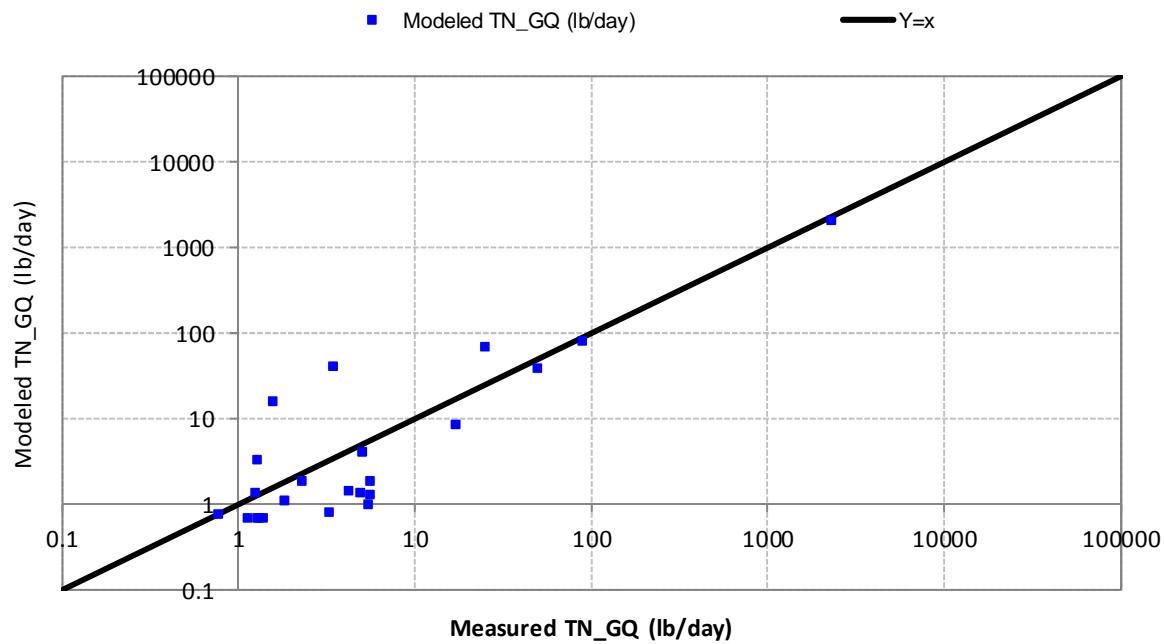


Figure B-138 Modeled vs. Observed Load TN\_GQ at 03298005

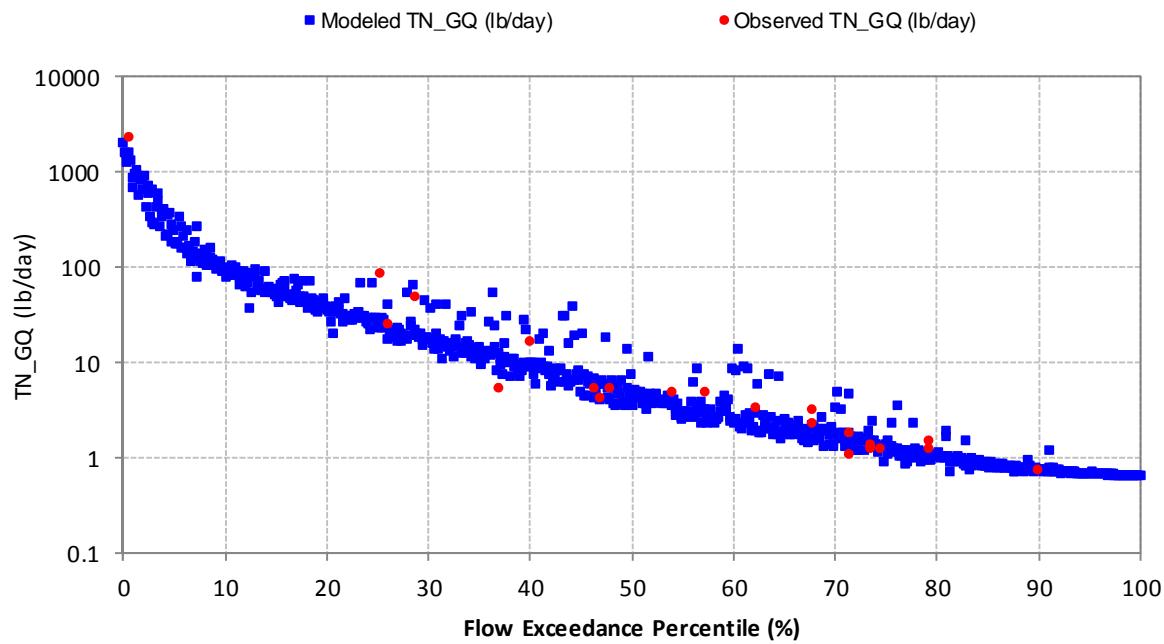


Figure B-139 Modeled vs. Observed Load TN\_GQ at 03298005

Table B-28 Modeled vs. Observed Load TN\_GQ at 03298005

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	18,610	23,068	-19.33	20,158	-7.68	
2008	21,889	20,038	9.24	13,817	58.42	

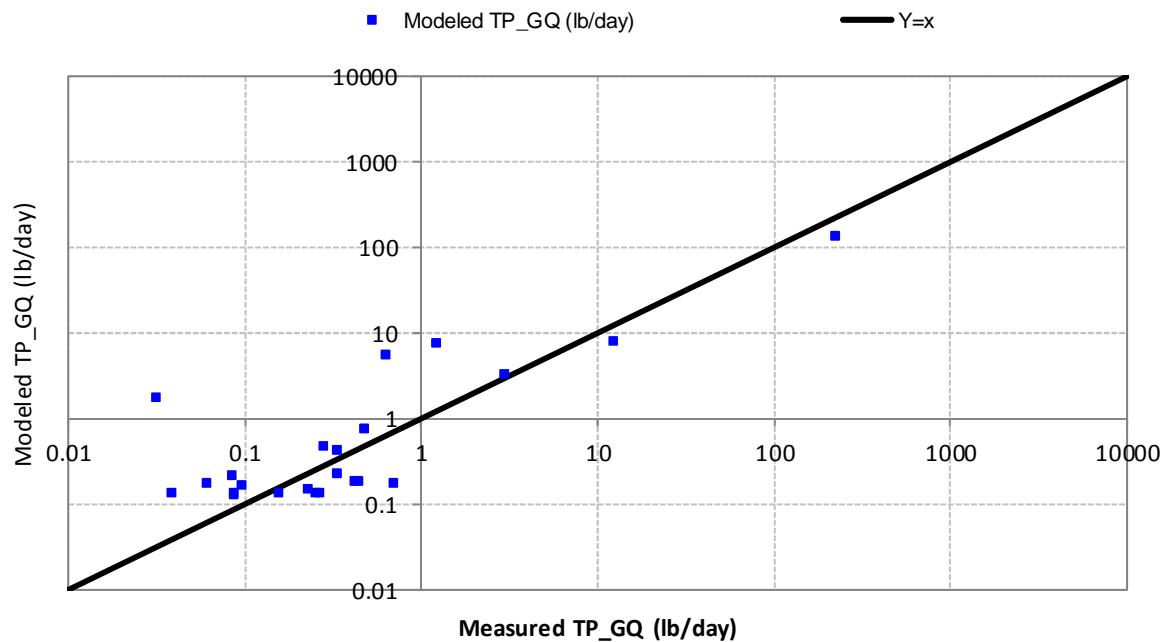


Figure B-140 Modeled vs. Observed Load TP\_GQ at 03298005

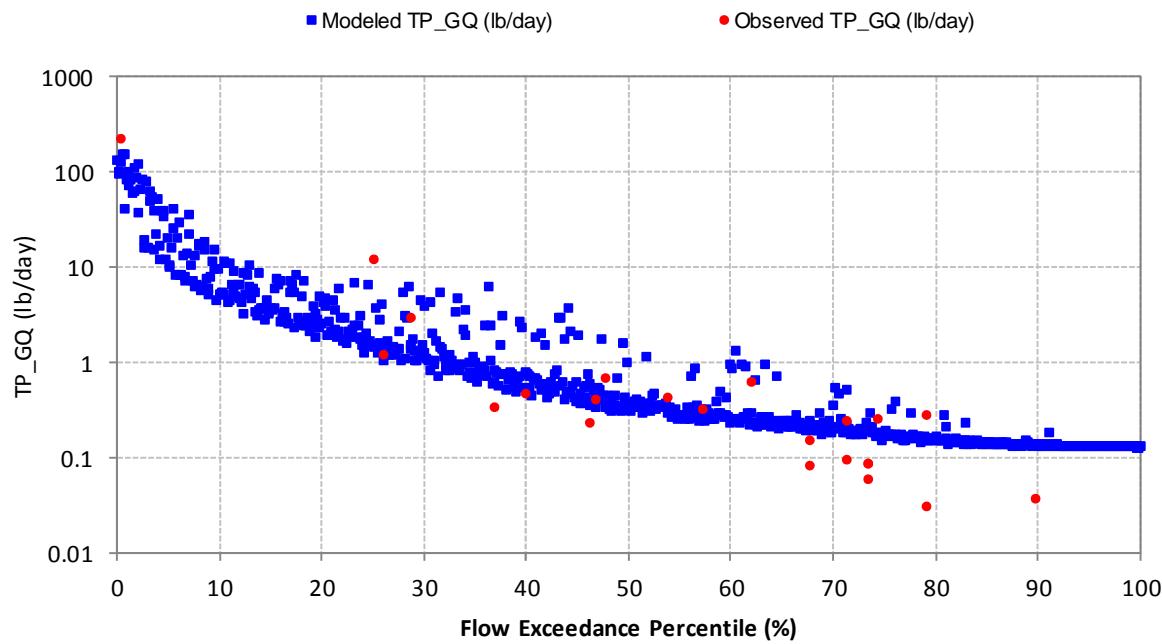


Figure B-141 Modeled vs. Observed Load TP\_GQ at 03298005

Table B-29 Modeled vs. Observed Load TP\_GQ at 03298005

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	1,656	1,804	-8.25	1,414	17.08
2008	1,970	1,242	58.64	761	158.81

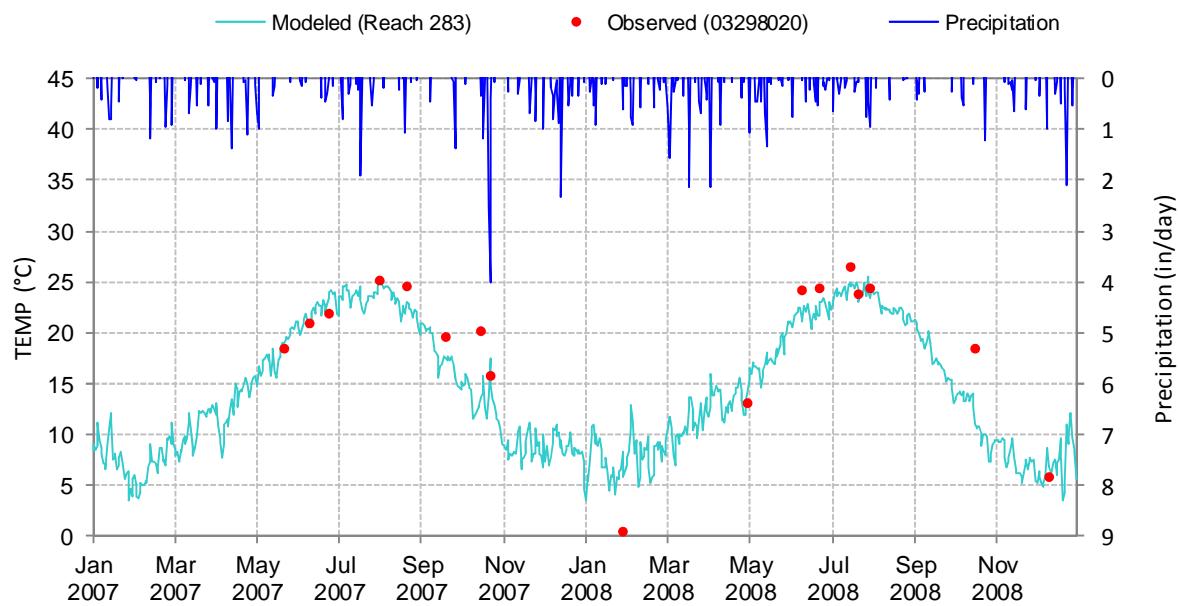


Figure B-142 Modeled vs. Observed TEMP (°C) at 03298020

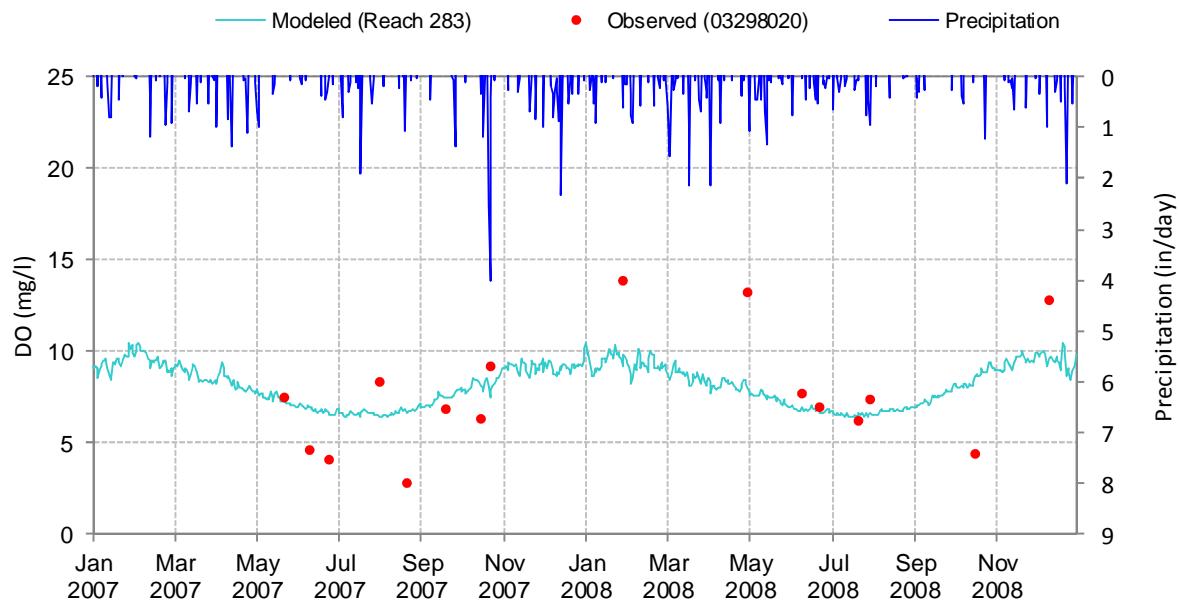


Figure B-143 Modeled vs. Observed DO (mg/l) at 03298020

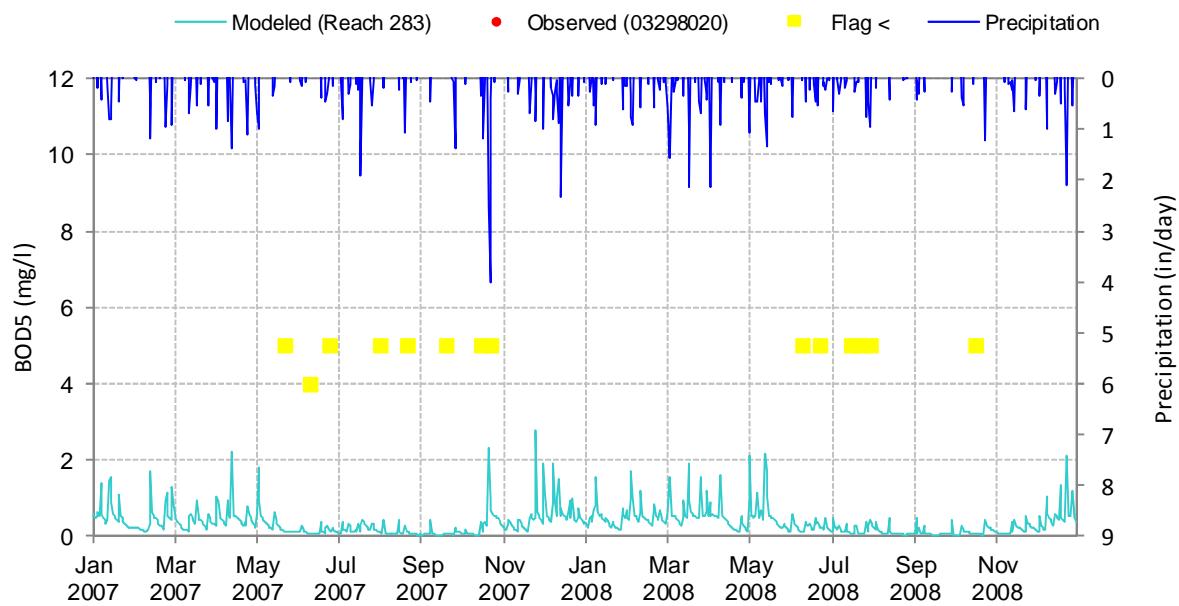


Figure B-144 Modeled vs. Observed BOD5 (mg/l) at 03298020

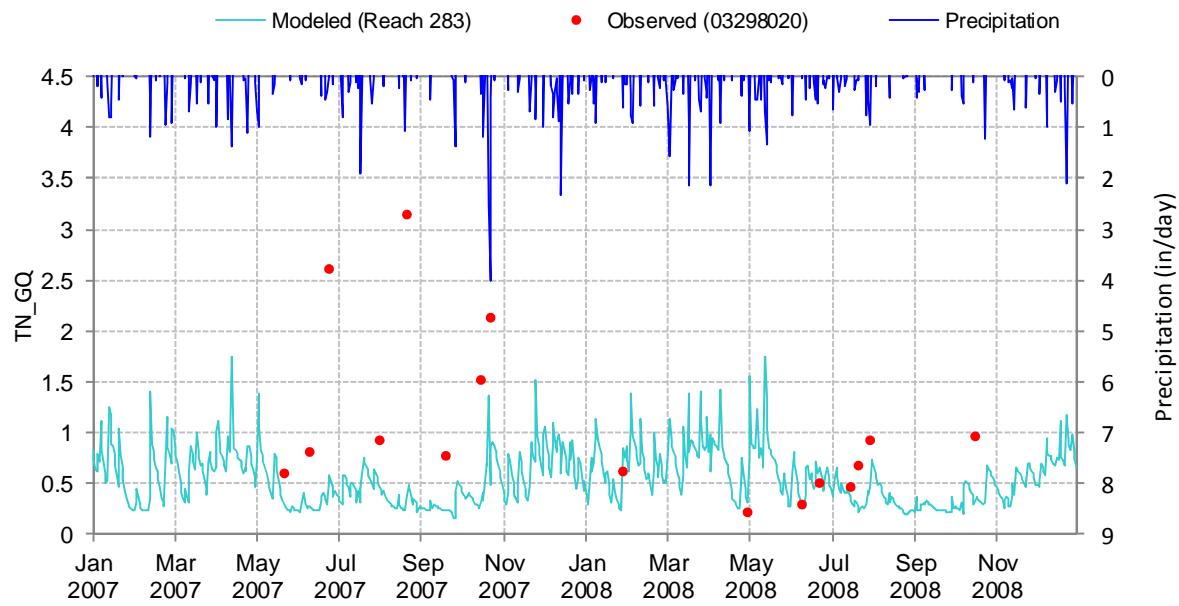


Figure B-145 Modeled vs. Observed TN\_GQ at 03298020

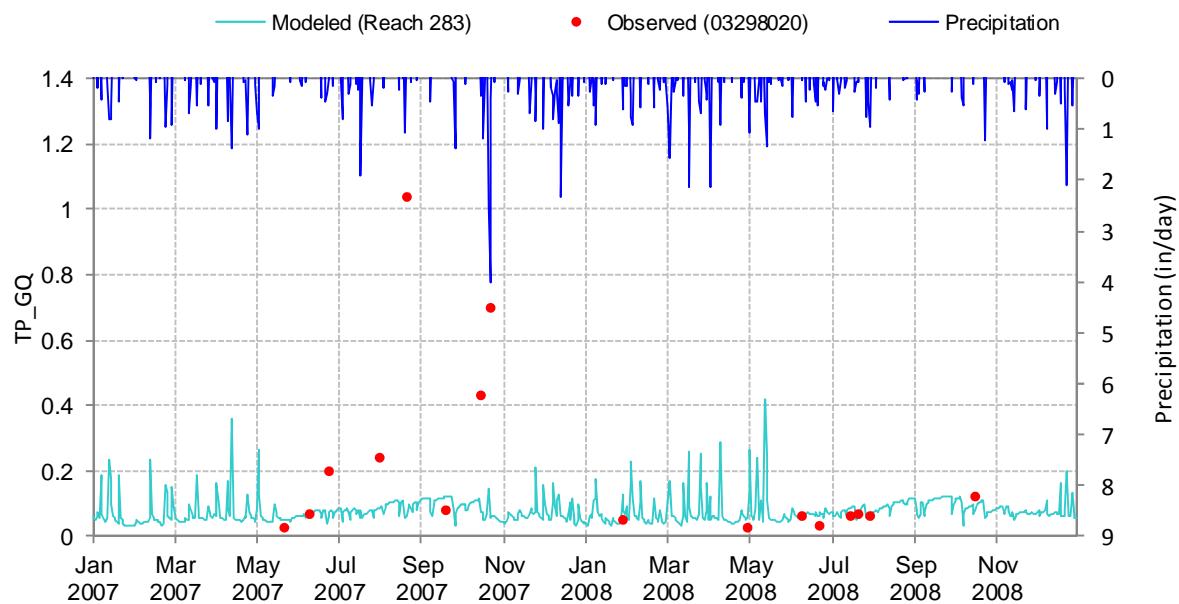


Figure B-146 Modeled vs. Observed TP\_GQ at 03298020

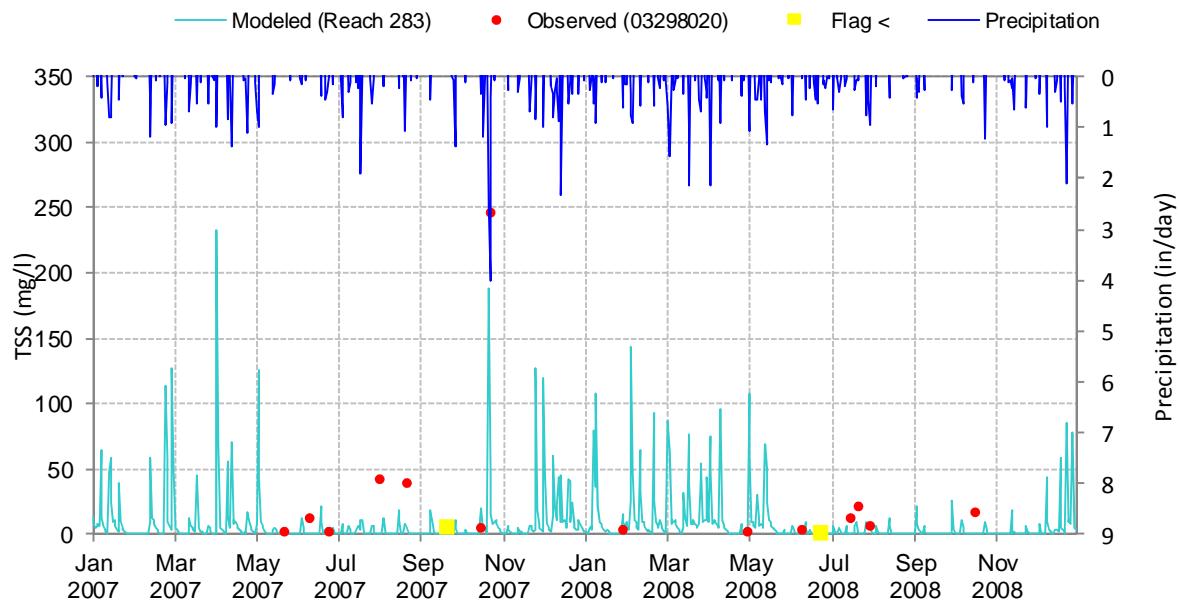


Figure B-147 Modeled vs. Observed TSS (mg/l) at 03298020

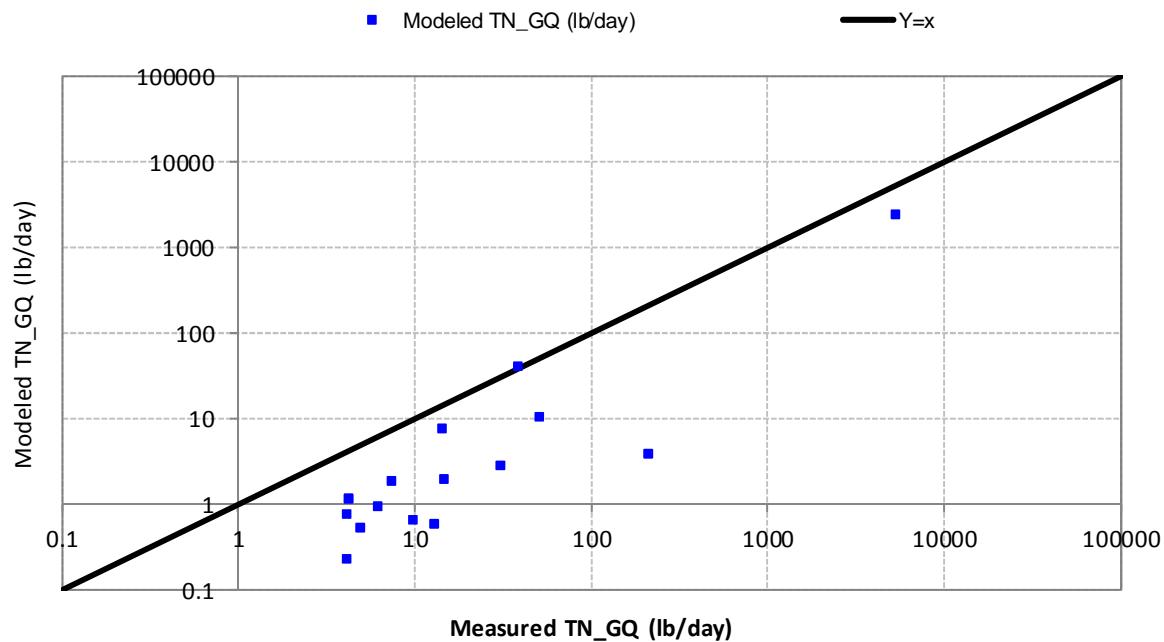


Figure B-148 Modeled vs. Observed Load TN\_GQ at 03298020

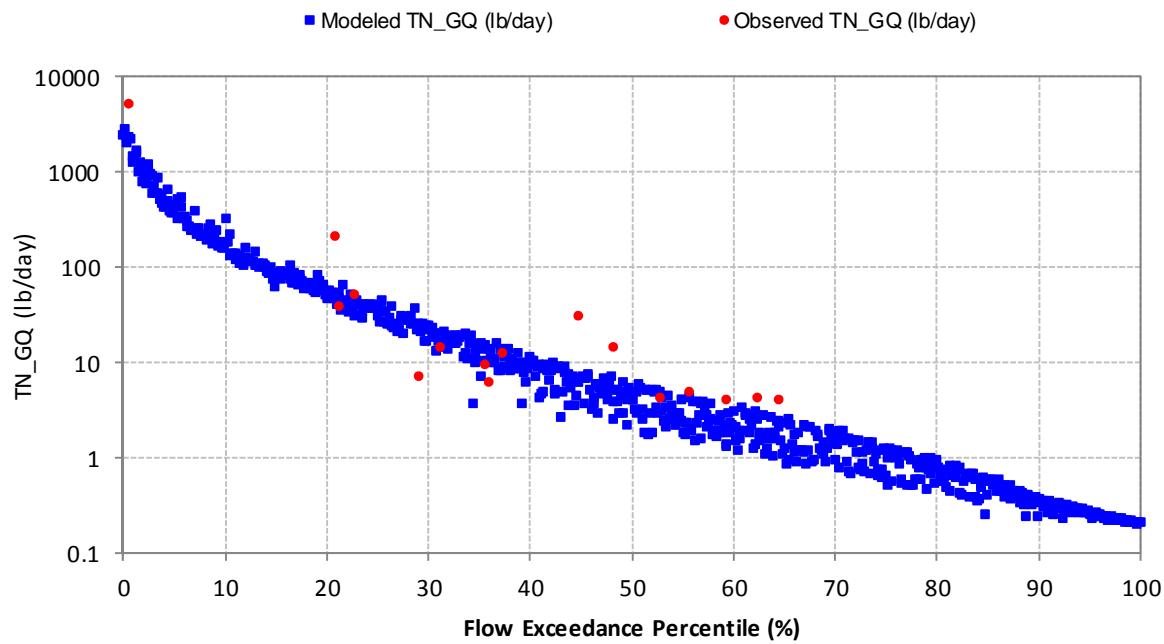


Figure B-149 Modeled vs. Observed Load TN\_GQ at 03298020

Table B-30 Modeled vs. Observed Load TN\_GQ at 03298020

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	28,034	51,636	-45.71	43,014	-34.83	
2008	33,574	34,818	-3.57	24,499	37.04	

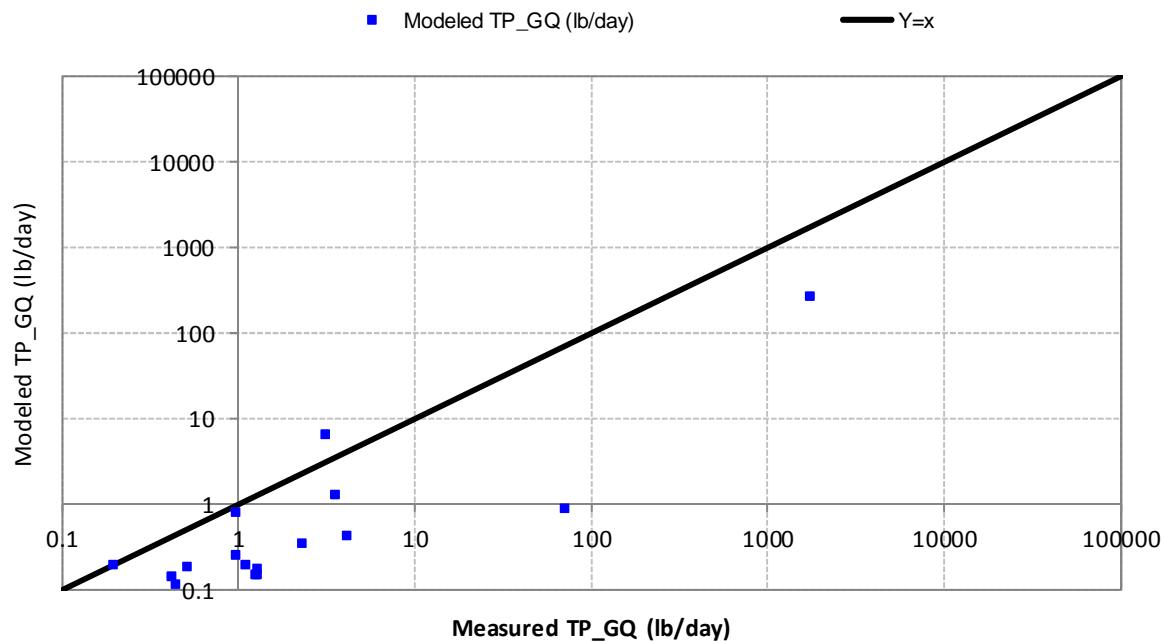


Figure B-150 Modeled vs. Observed Load TP\_GQ at 03298020

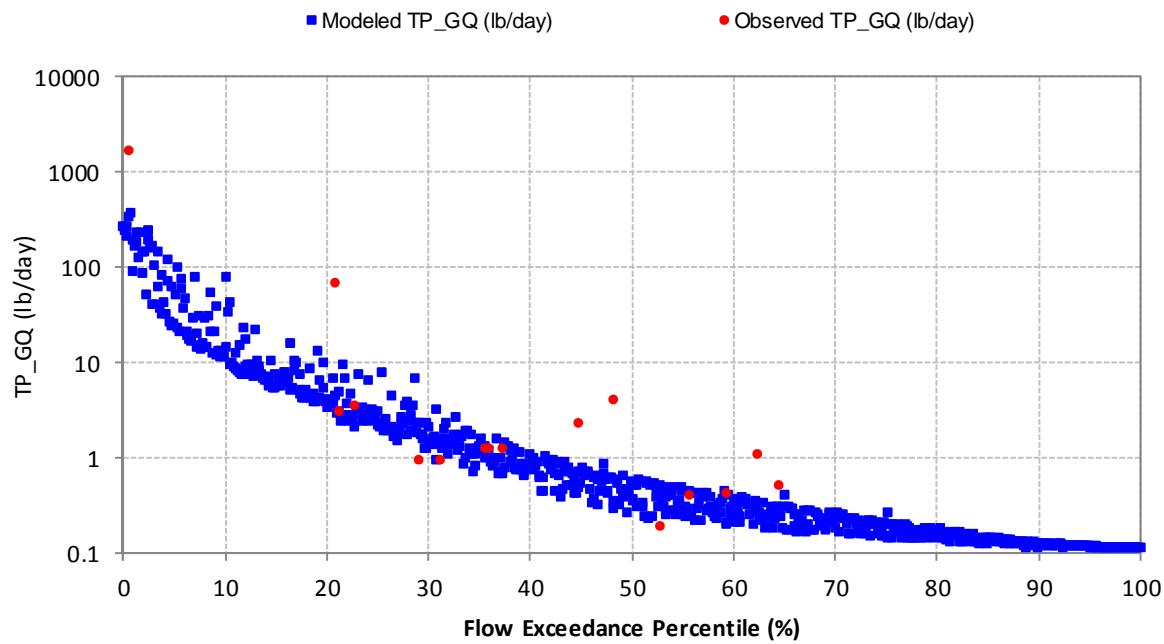


Figure B-151 Modeled vs. Observed Load TP\_GQ at 03298020

Table B-31 Modeled vs. Observed Load TP\_GQ at 03298020

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	3,210	12,545	-74.41	9,018	-64.4
2008	4,093	4,938	-17.11	2,984	37.18

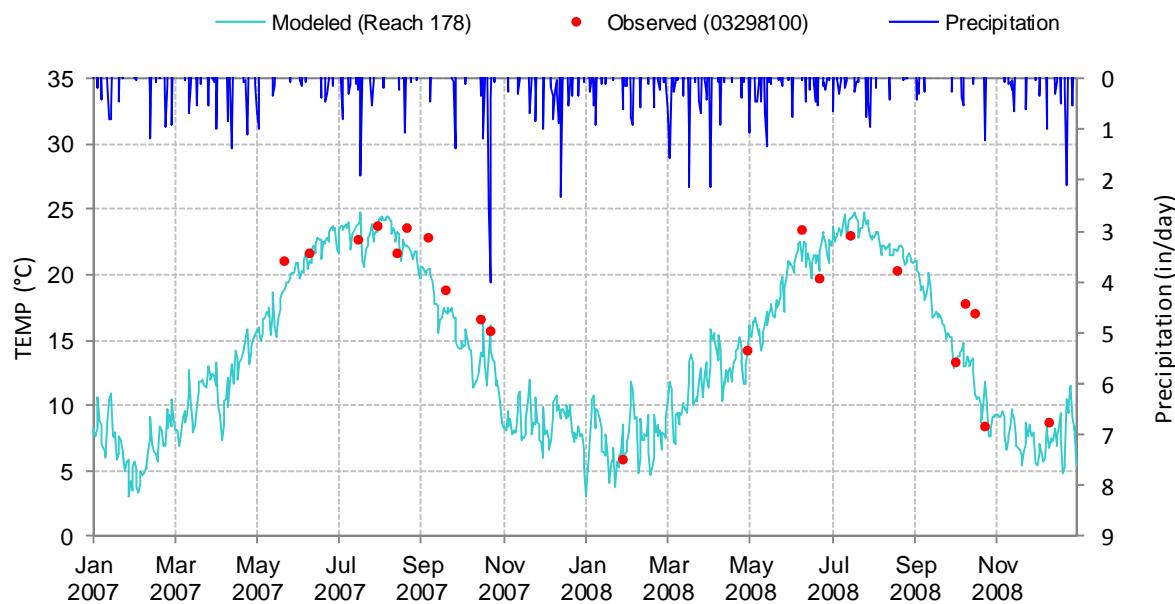


Figure B-152 Modeled vs. Observed TEMP (°C) at 03298100

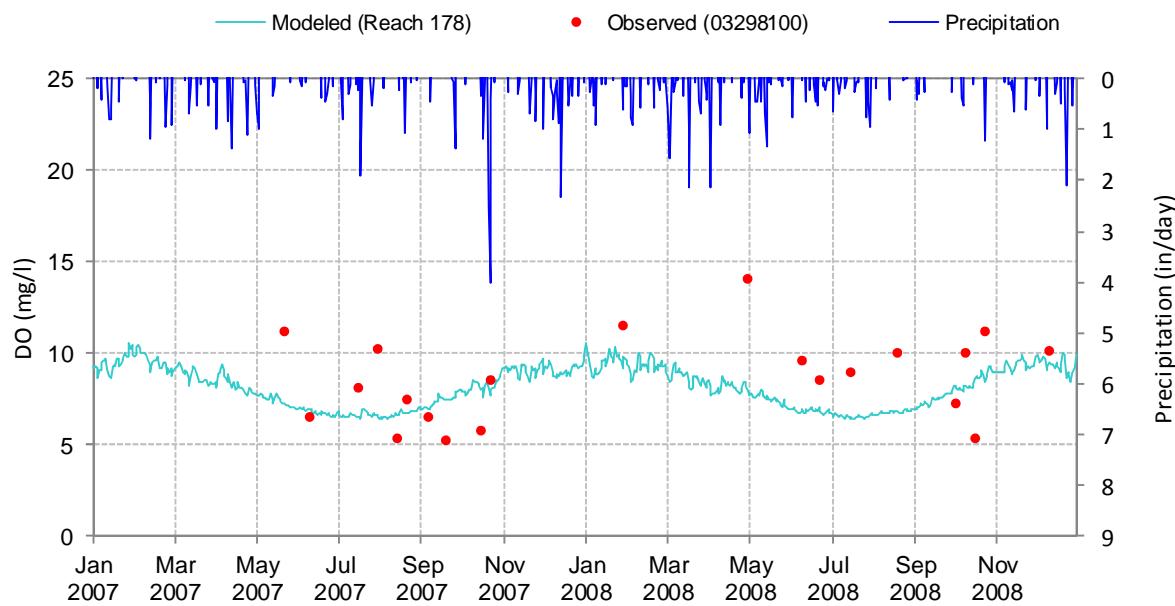


Figure B-153 Modeled vs. Observed DO (mg/l) at 03298100

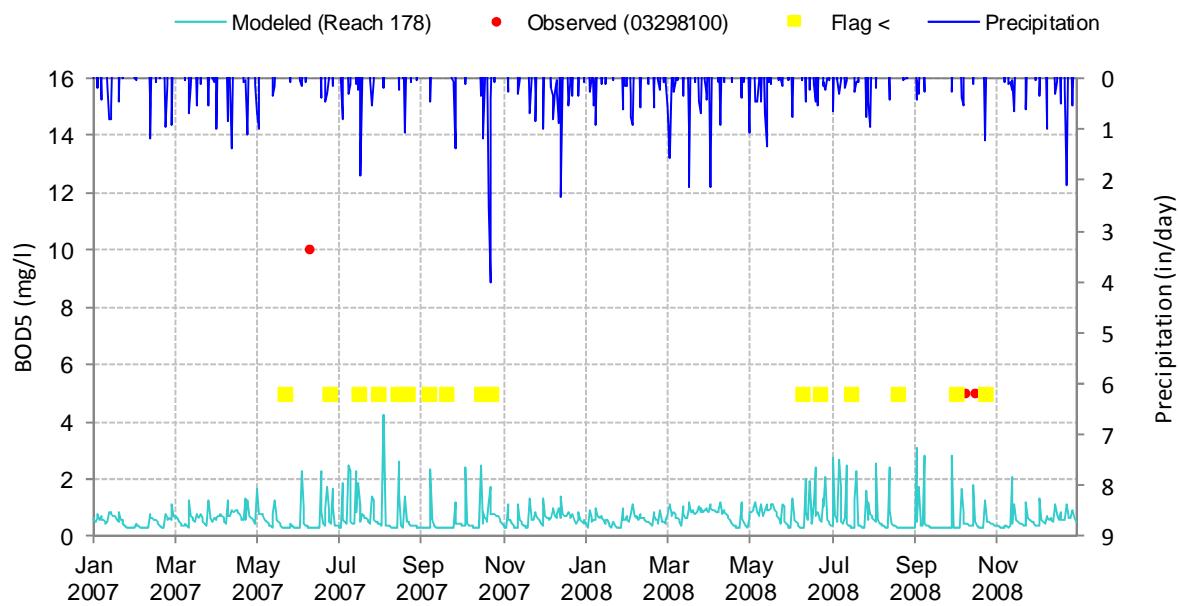


Figure B-154 Modeled vs. Observed BOD5 (mg/l) at 03298100

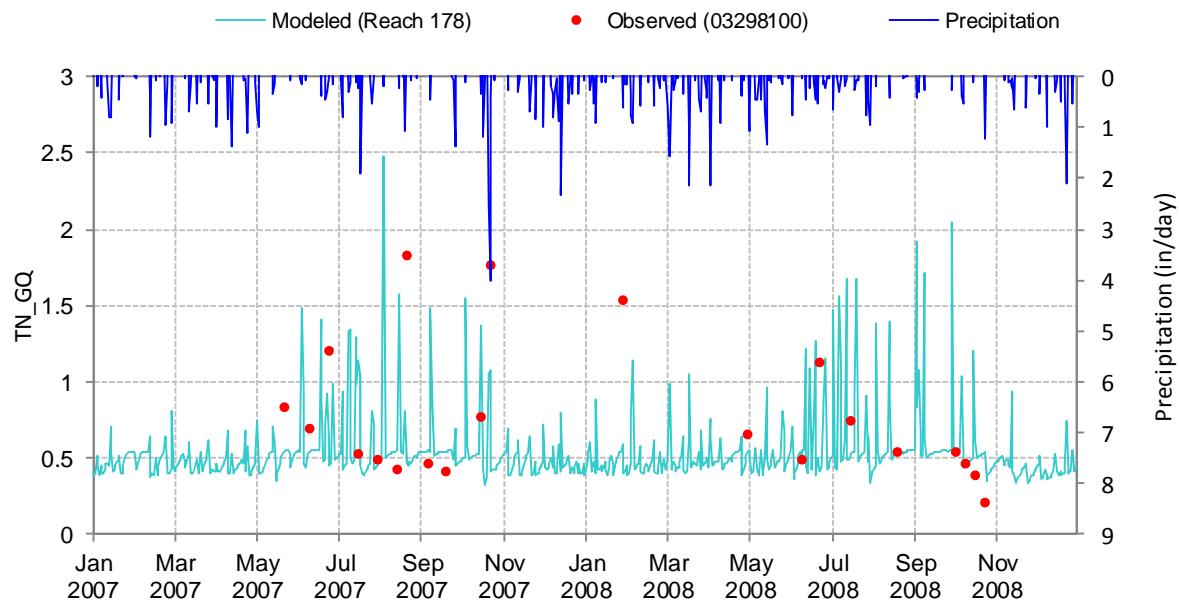


Figure B-155 Modeled vs. Observed TN\_GQ at 03298100

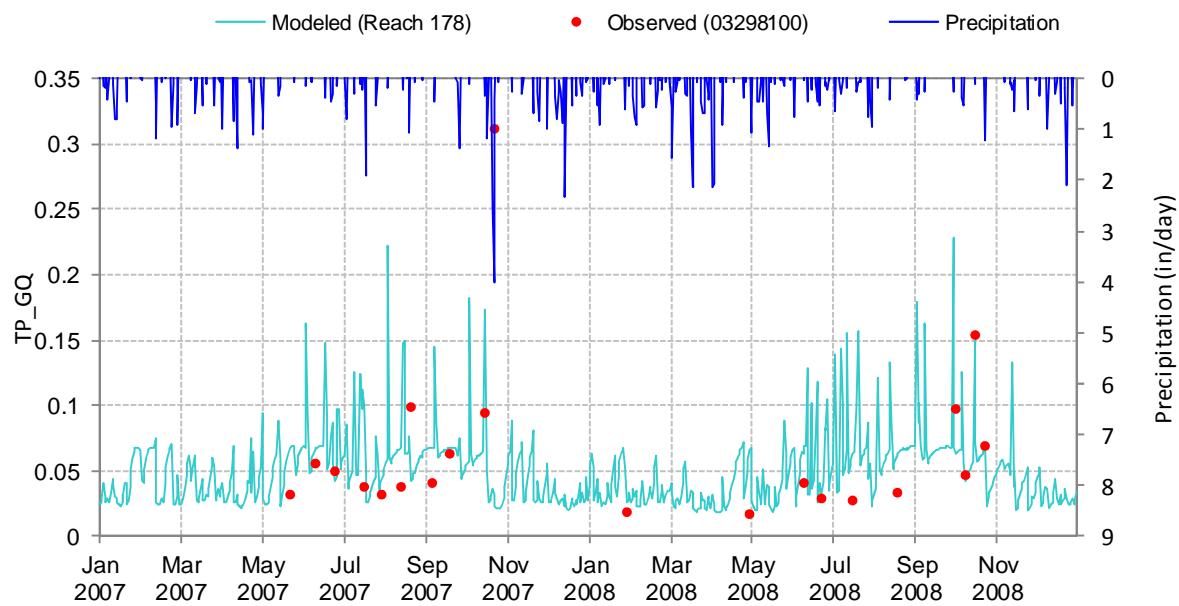


Figure B-156 Modeled vs. Observed TP\_GQ at 03298100

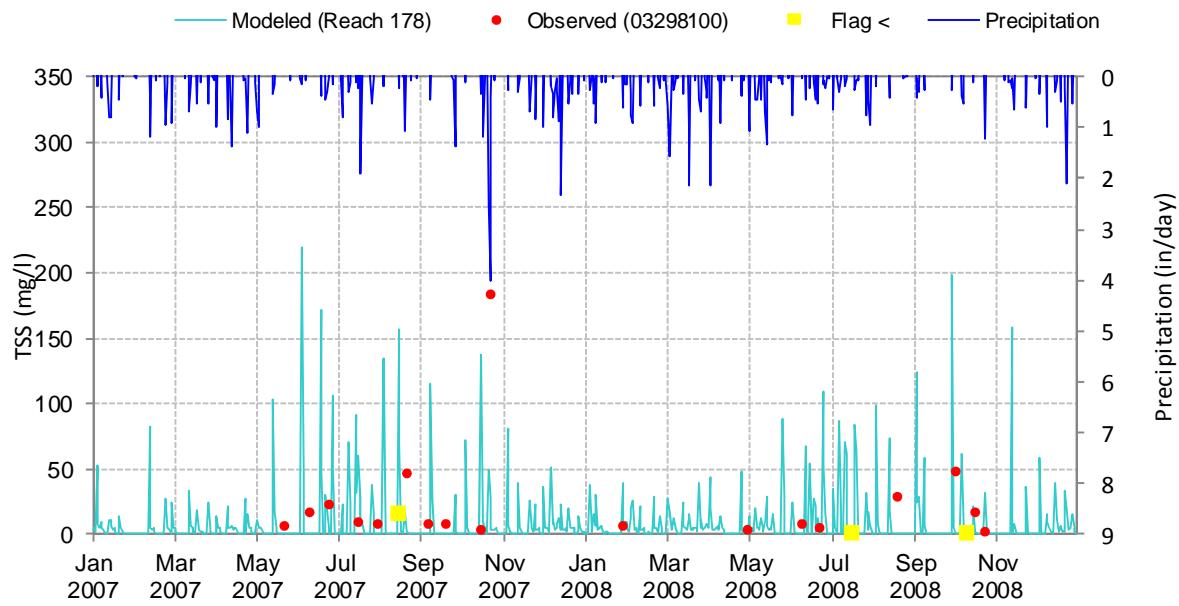


Figure B-157 Modeled vs. Observed TSS (mg/l) at 03298100

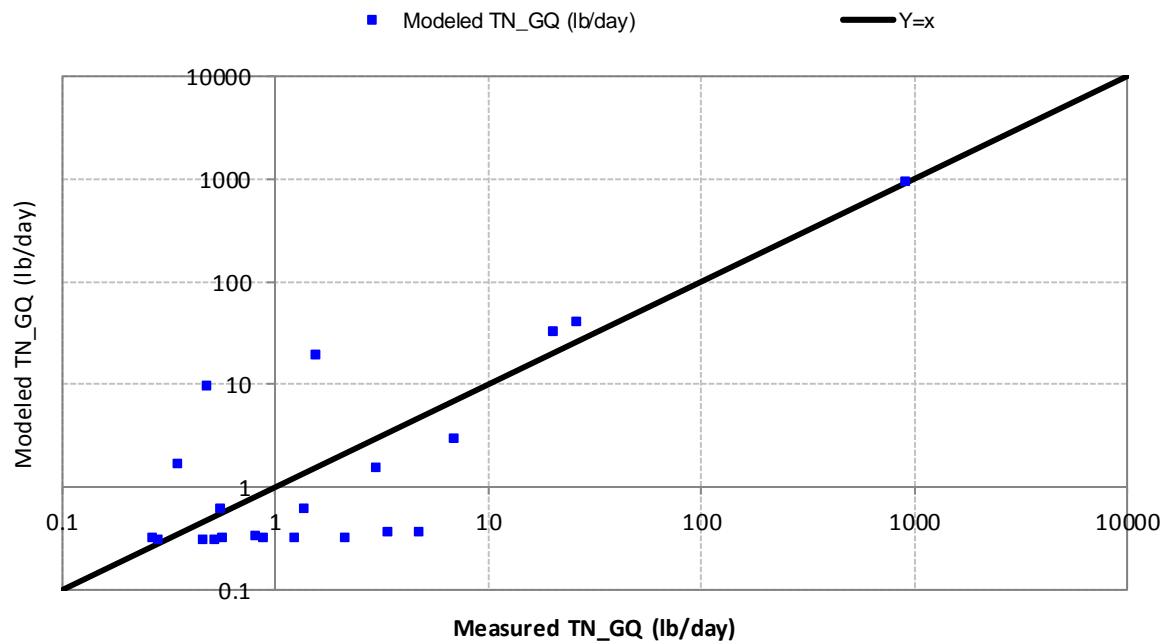


Figure B-158 Modeled vs. Observed Load TN\_GQ at 03298100

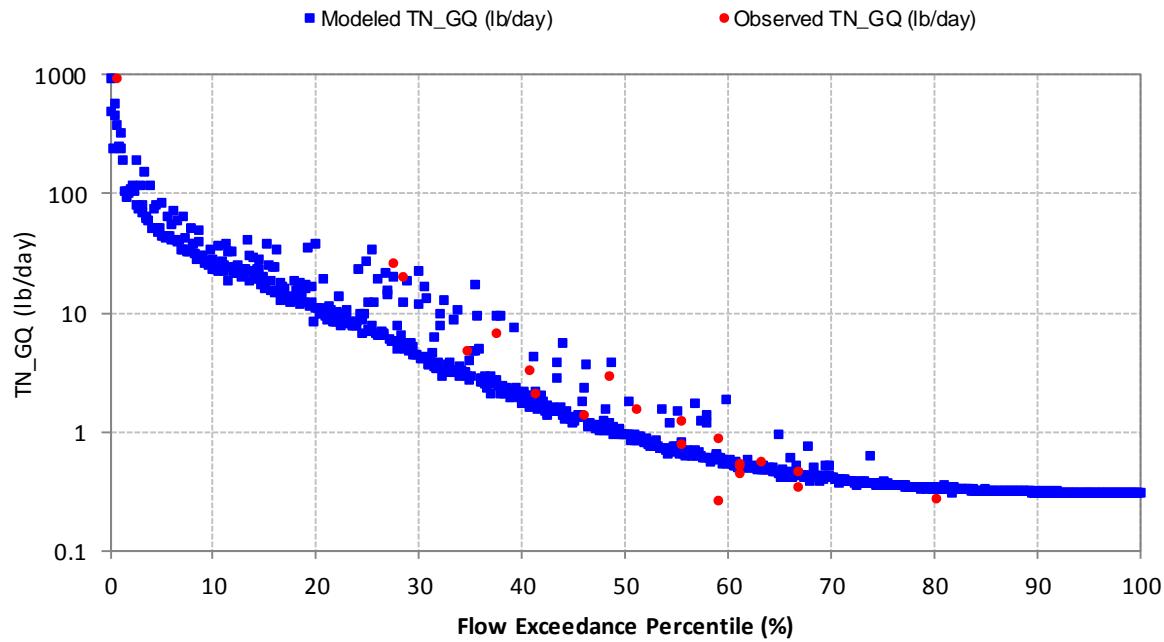


Figure B-159 Modeled vs. Observed Load TN\_GQ at 03298100

Table B-32 Modeled vs. Observed Load TN\_GQ at 03298100

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	5,129	10,227	-49.84	9,949	-48.44	
2008	5,694	13,956	-59.2	10,738	-46.98	

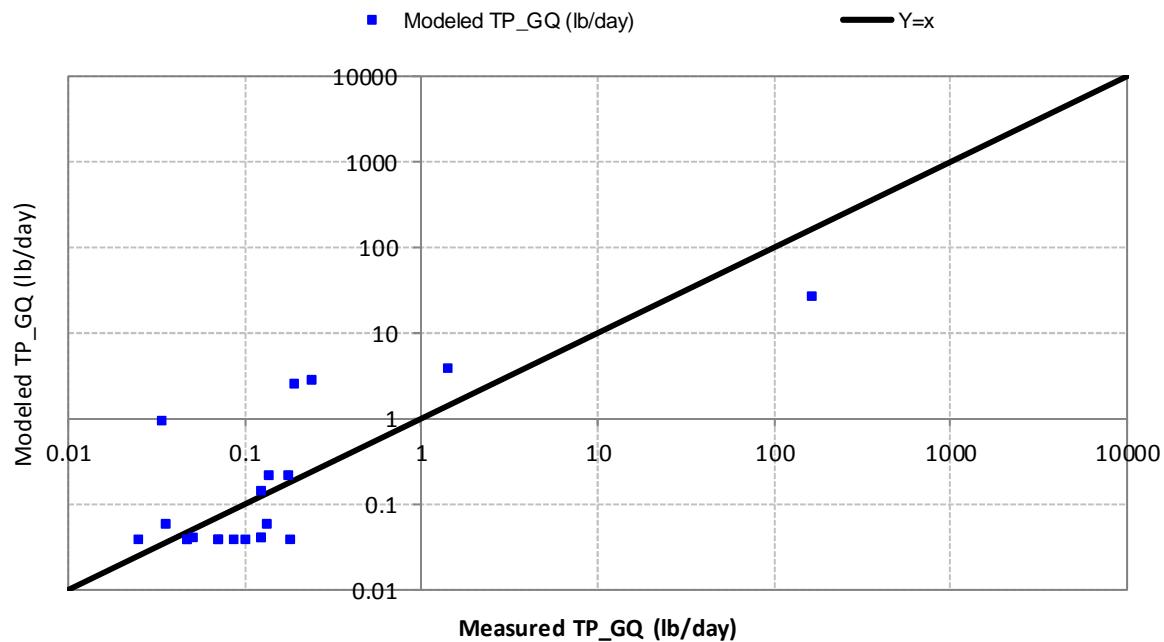


Figure B-160 Modeled vs. Observed Load TP\_GQ at 03298100

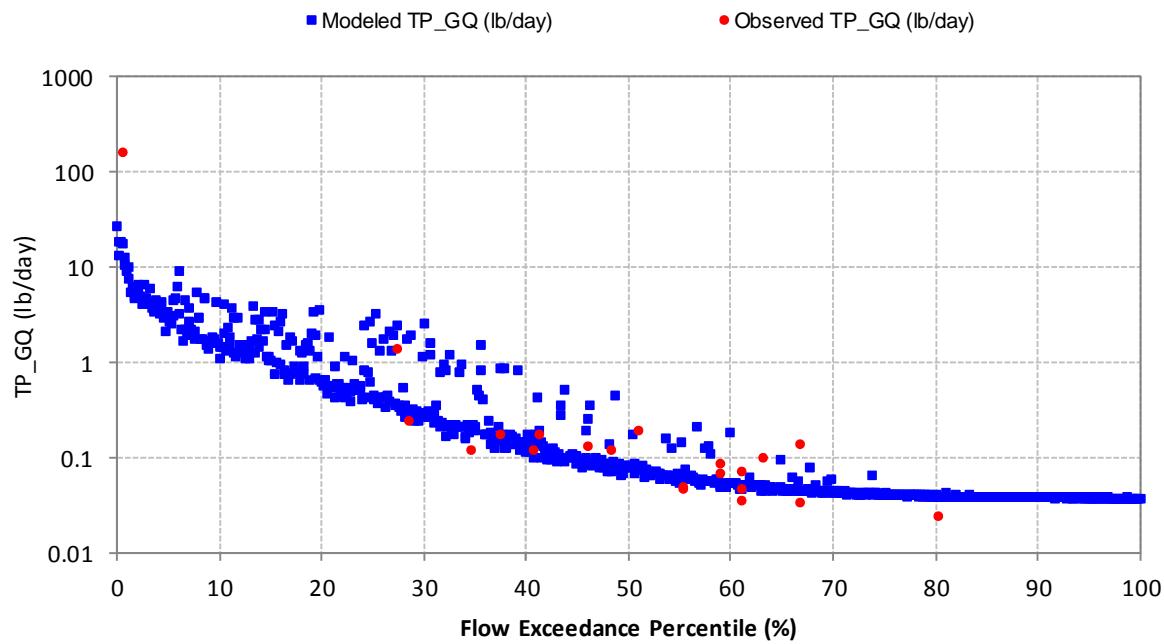


Figure B-161 Modeled vs. Observed Load TP\_GQ at 03298100

Table B-33 Modeled vs. Observed Load TP\_GQ at 03298100

Year	Simulated	Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	304	1,242	-75.52	903	-66.34
2008	307	462	-33.64	292	5.02

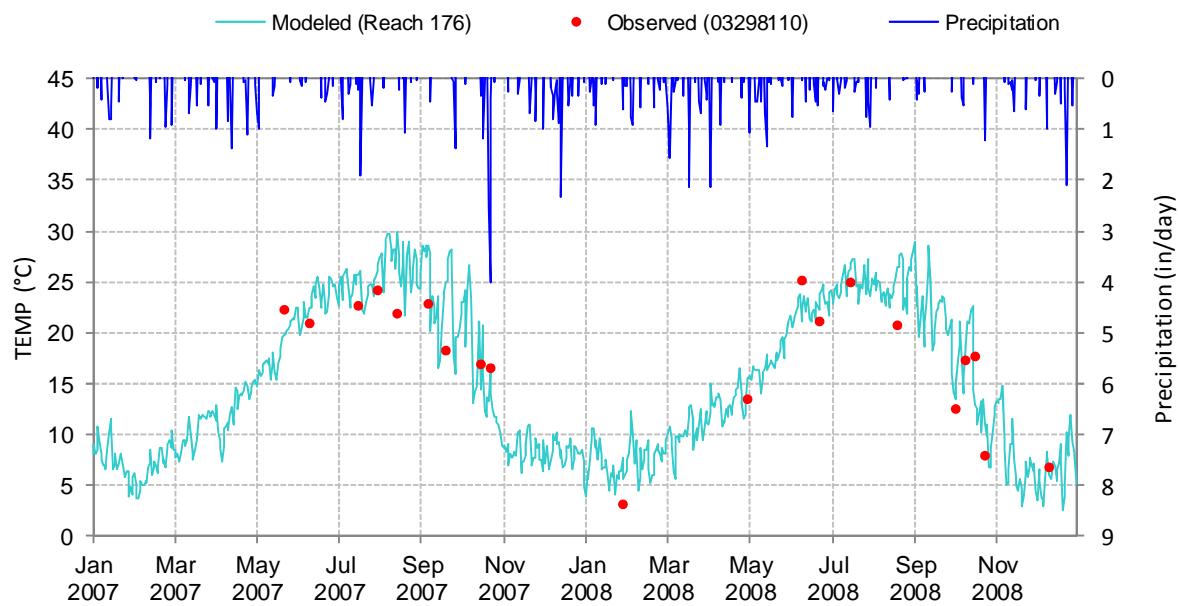
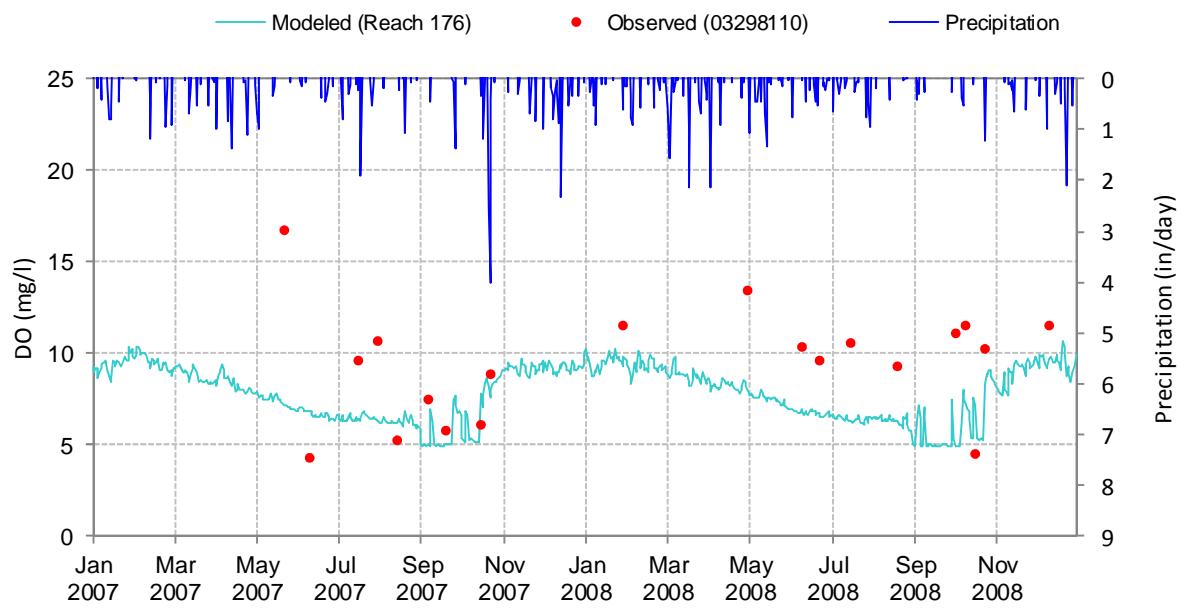
Figure B-162 Modeled vs. Observed TEMP ( $^{\circ}\text{C}$ ) at 03298110

Figure B-163 Modeled vs. Observed DO (mg/l) at 03298110

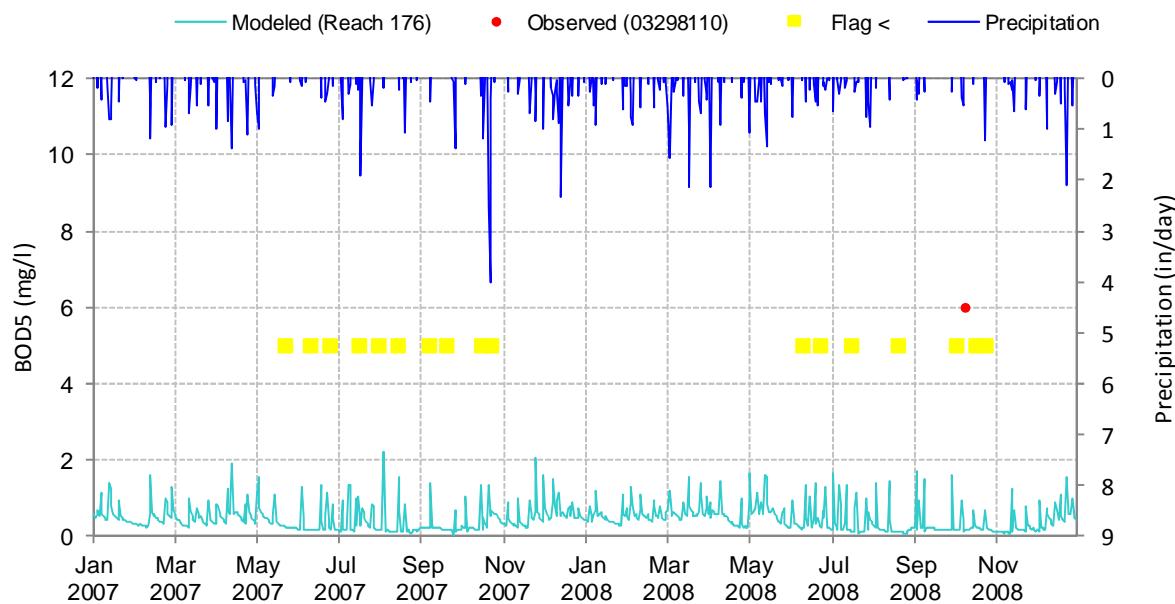


Figure B-164 Modeled vs. Observed BOD5 (mg/l) at 03298110

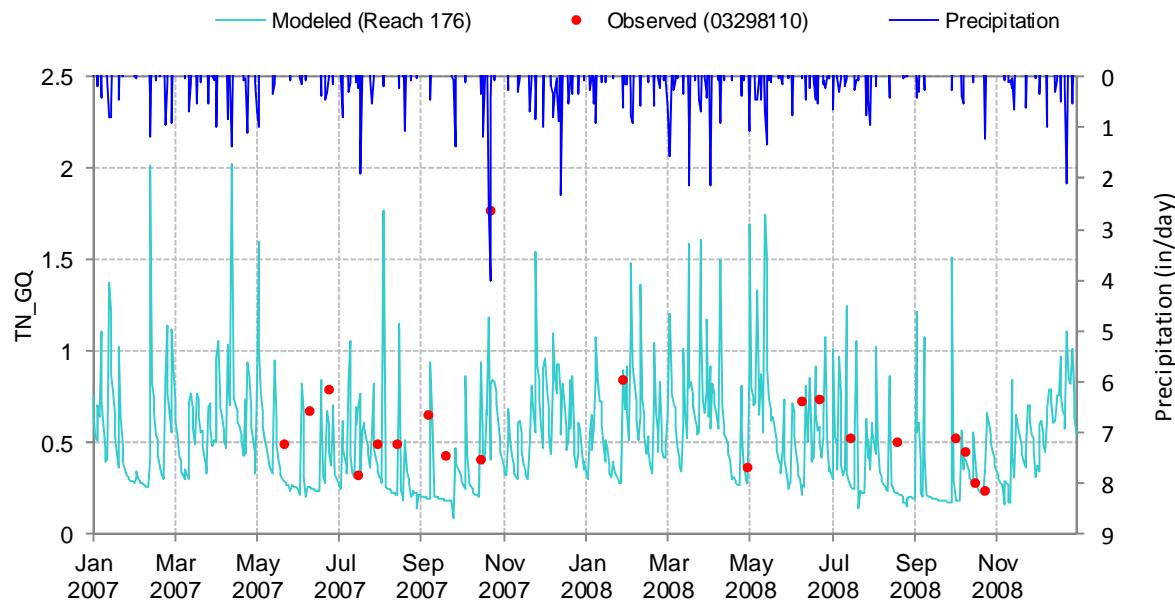


Figure B-165 Modeled vs. Observed TN\_GQ at 03298110

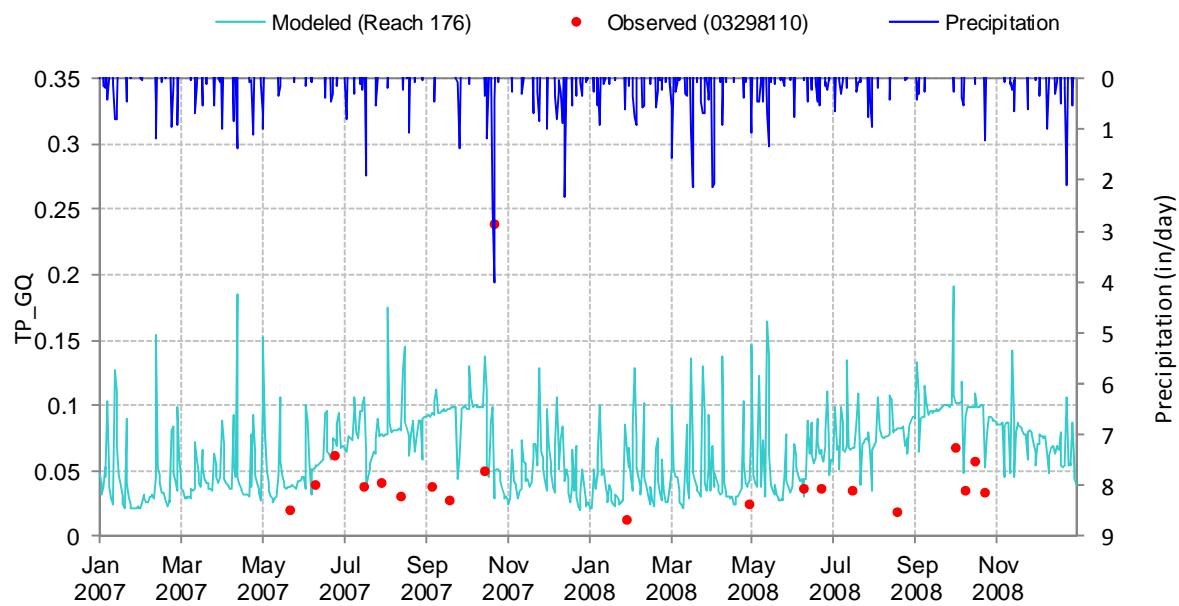


Figure B-166 Modeled vs. Observed TP\_GQ at 03298110

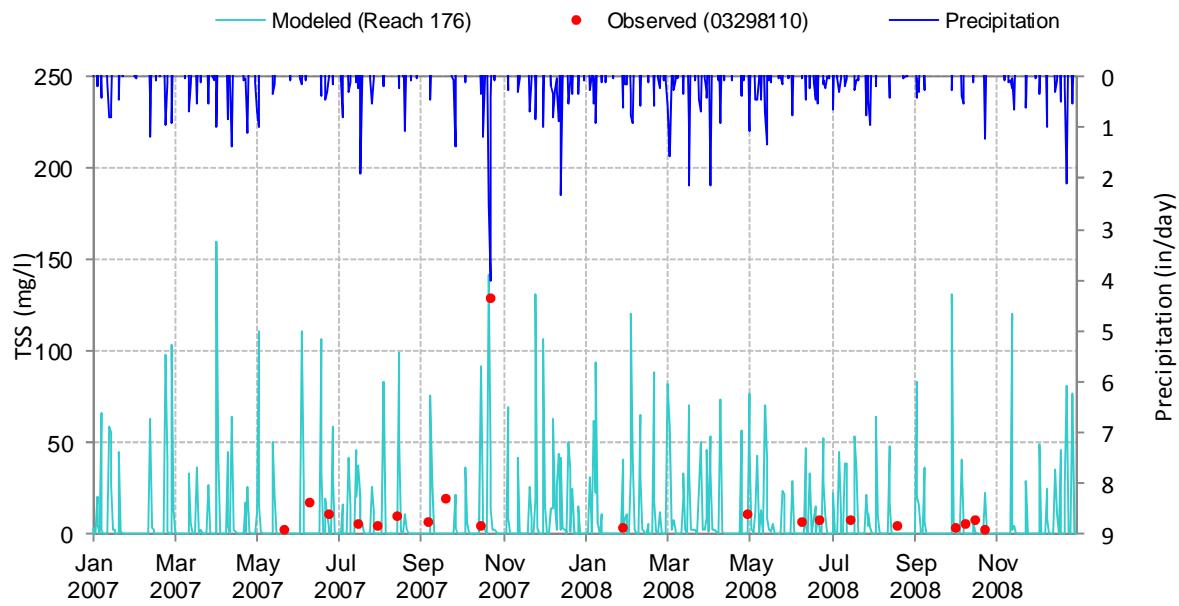


Figure B-167 Modeled vs. Observed TSS (mg/l) at 03298110

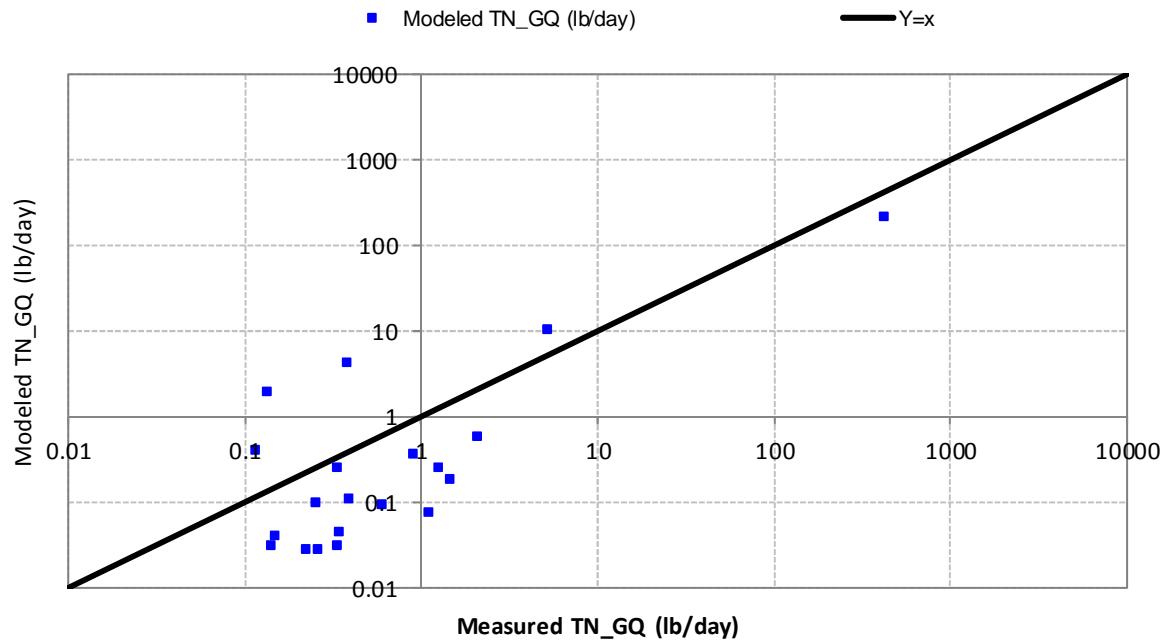


Figure B-168 Modeled vs. Observed Load TN\_GQ at 03298110

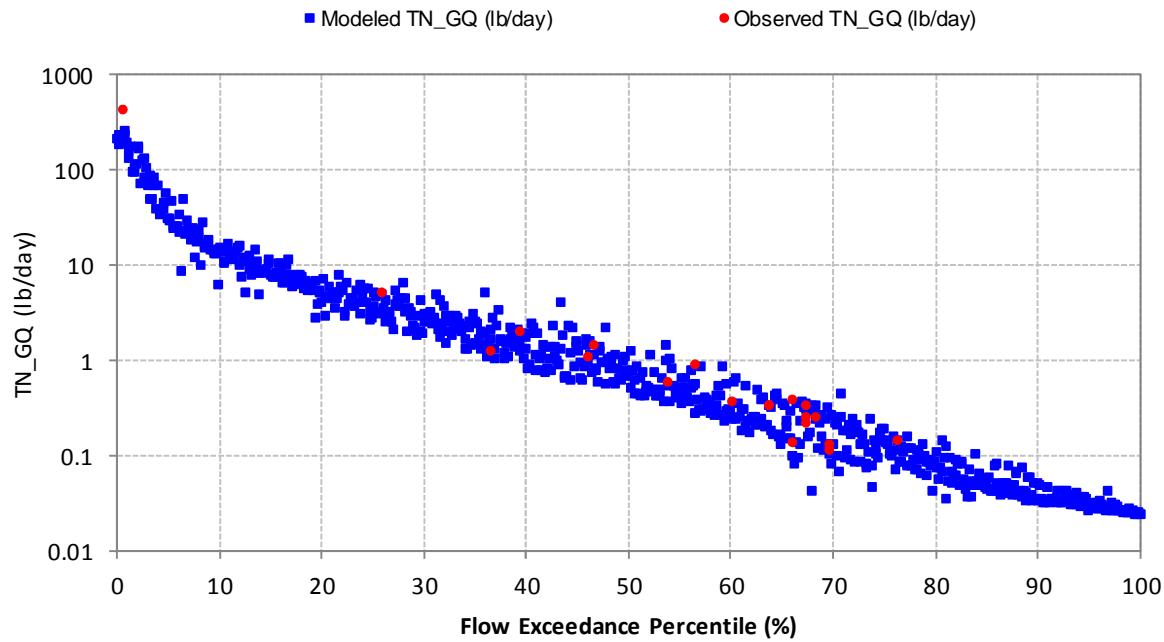


Figure B-169 Modeled vs. Observed Load TN\_GQ at 03298110

Table B-34 Modeled vs. Observed Load TN\_GQ at 03298110

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	2,875	3,933		-26.91	3,440	-16.42
2008	3,477	3,881		-10.41	2,976	16.81

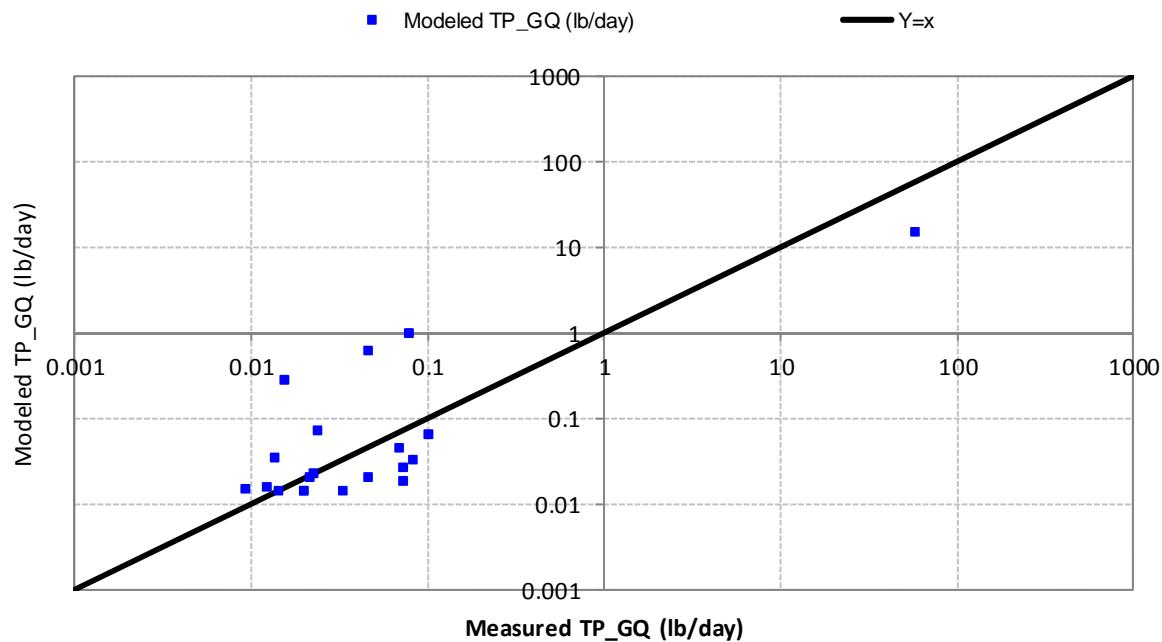


Figure B-170 Modeled vs. Observed Load TP\_GQ at 03298110

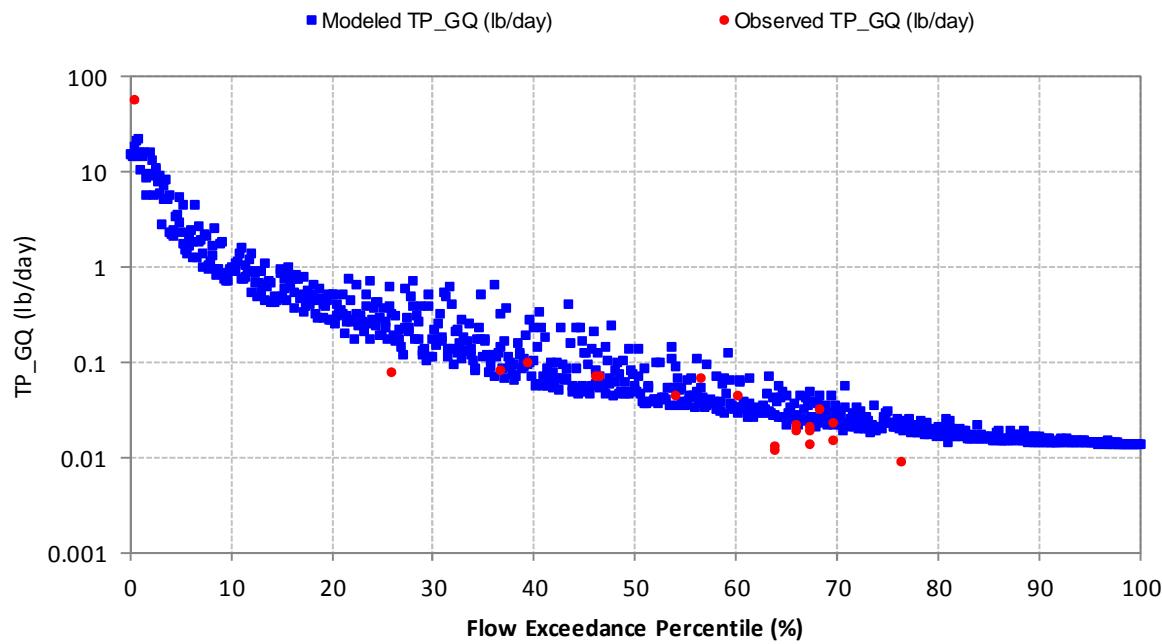


Figure B-171 Modeled vs. Observed Load TP\_GQ at 03298110

Table B-35 Modeled vs. Observed Load TP\_GQ at 03298110

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	236	428	-44.97	309	-23.64
2008	280	162	72.36	123	127.23

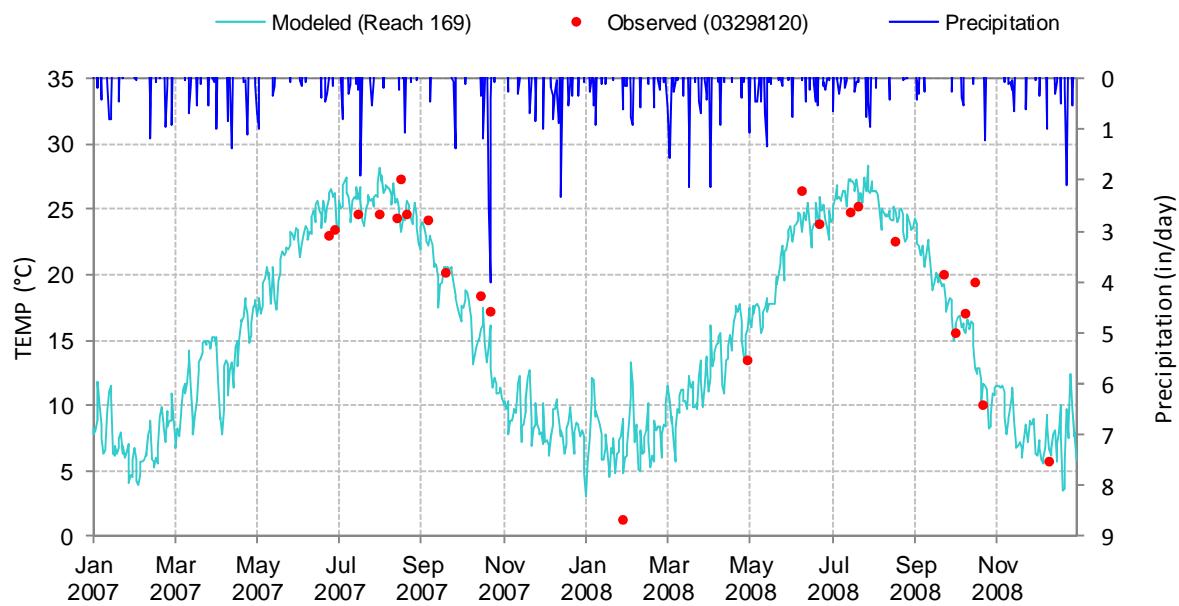


Figure B-172 Modeled vs. Observed TEMP (°C) at 03298120

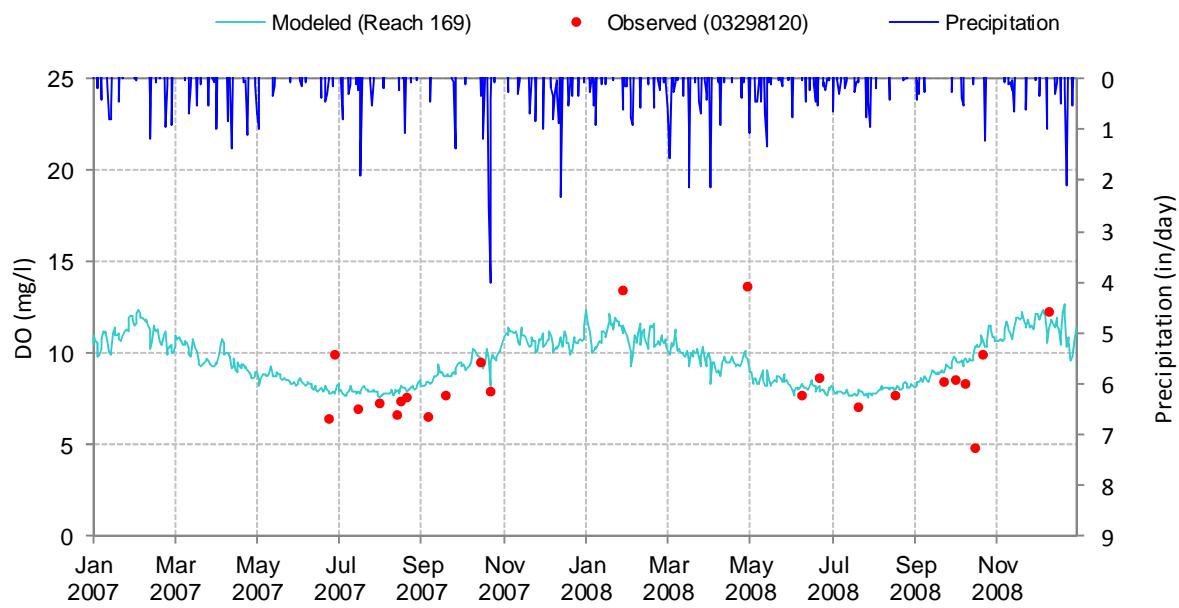


Figure B-173 Modeled vs. Observed DO (mg/l) at 03298120

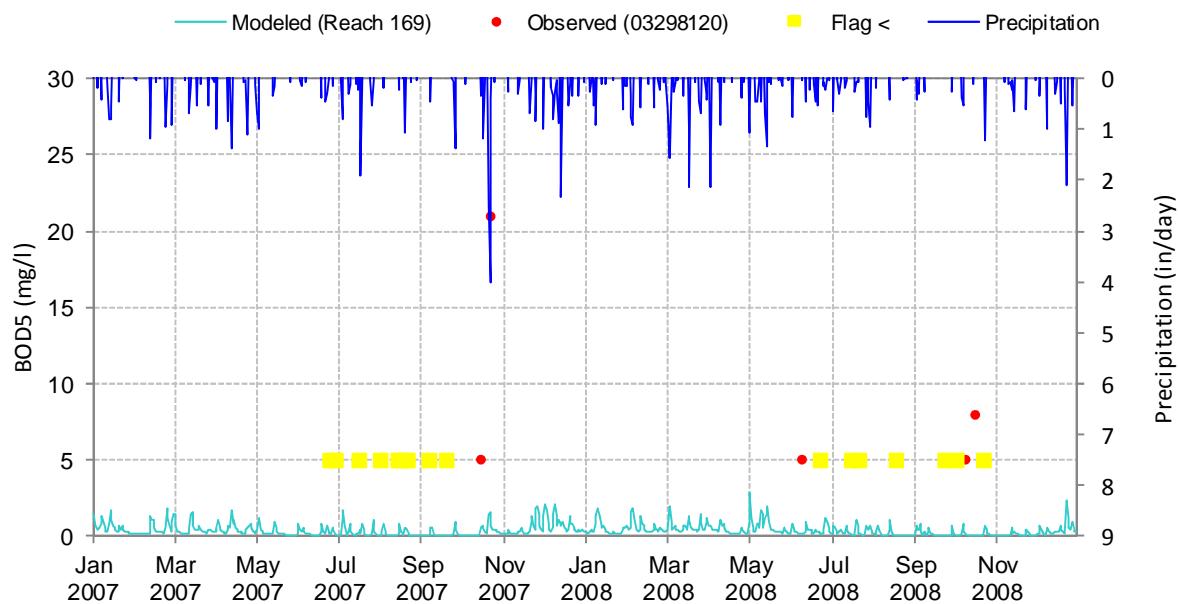


Figure B-174 Modeled vs. Observed BOD5 (mg/l) at 03298120

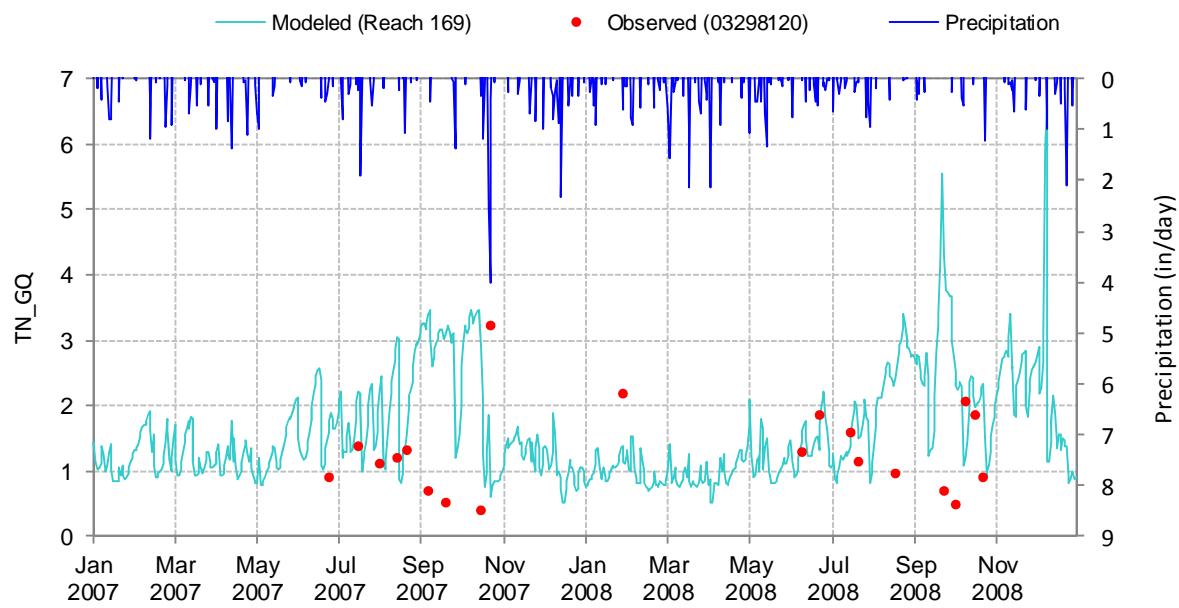


Figure B-175 Modeled vs. Observed TN\_GQ at 03298120

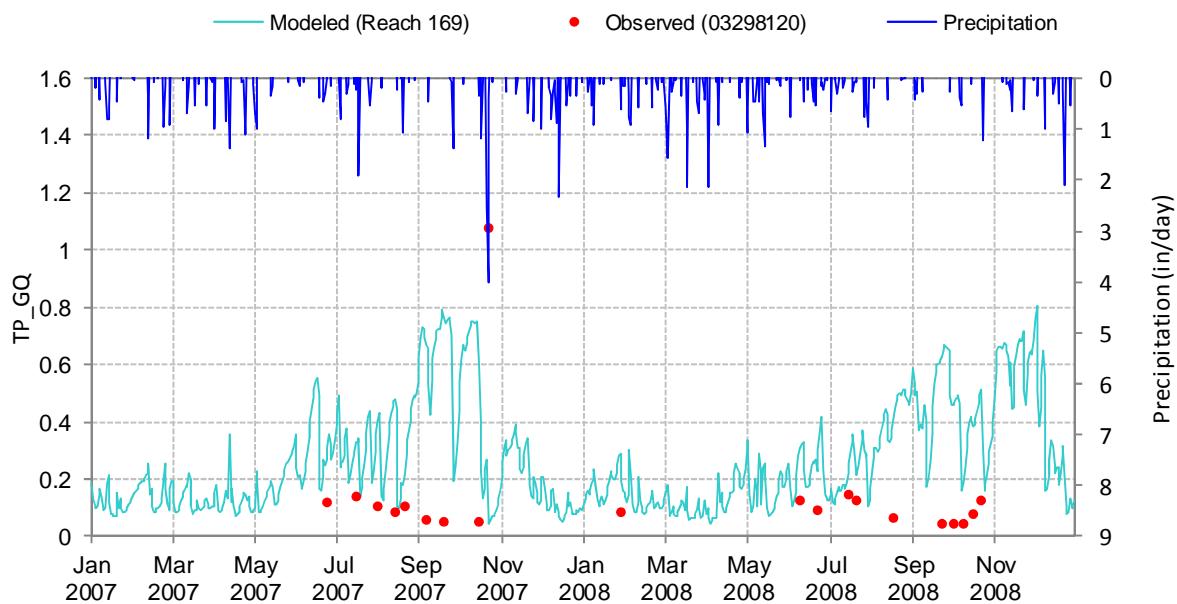


Figure B-176 Modeled vs. Observed TP\_GQ at 03298120

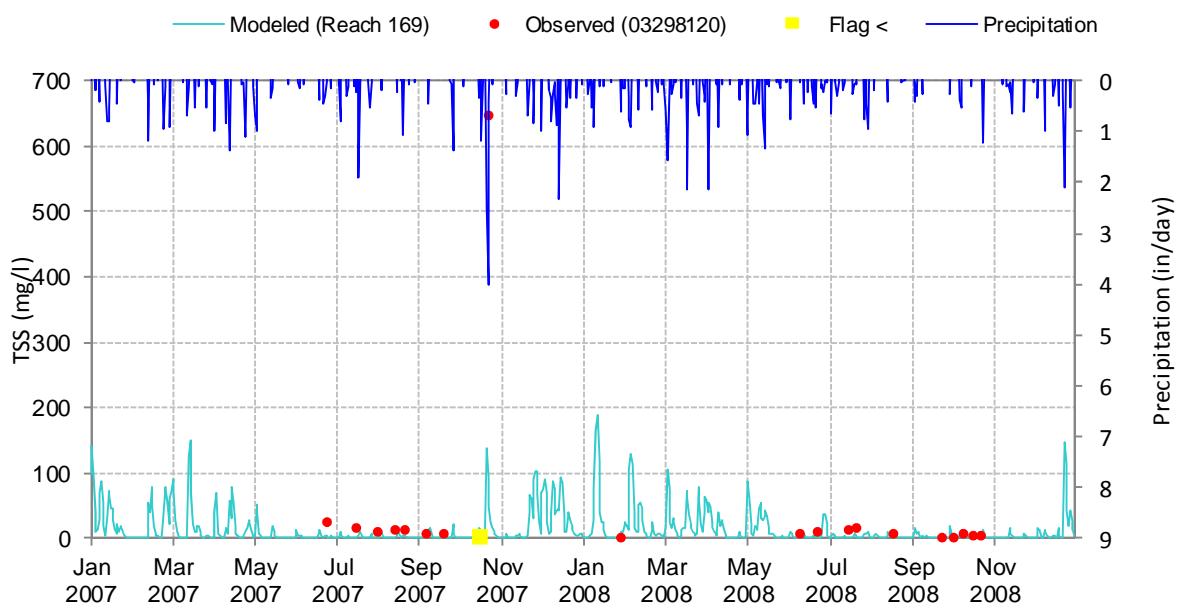


Figure B-177 Modeled vs. Observed TSS (mg/l) at 03298120

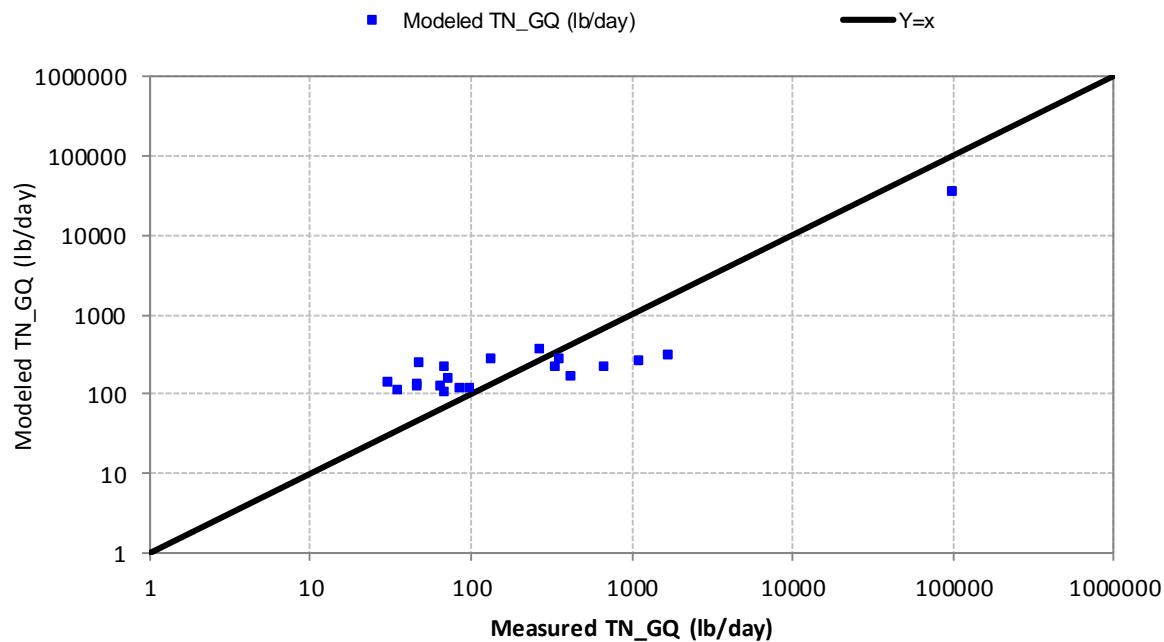


Figure B-178 Modeled vs. Observed Load TN\_GQ at 03298120

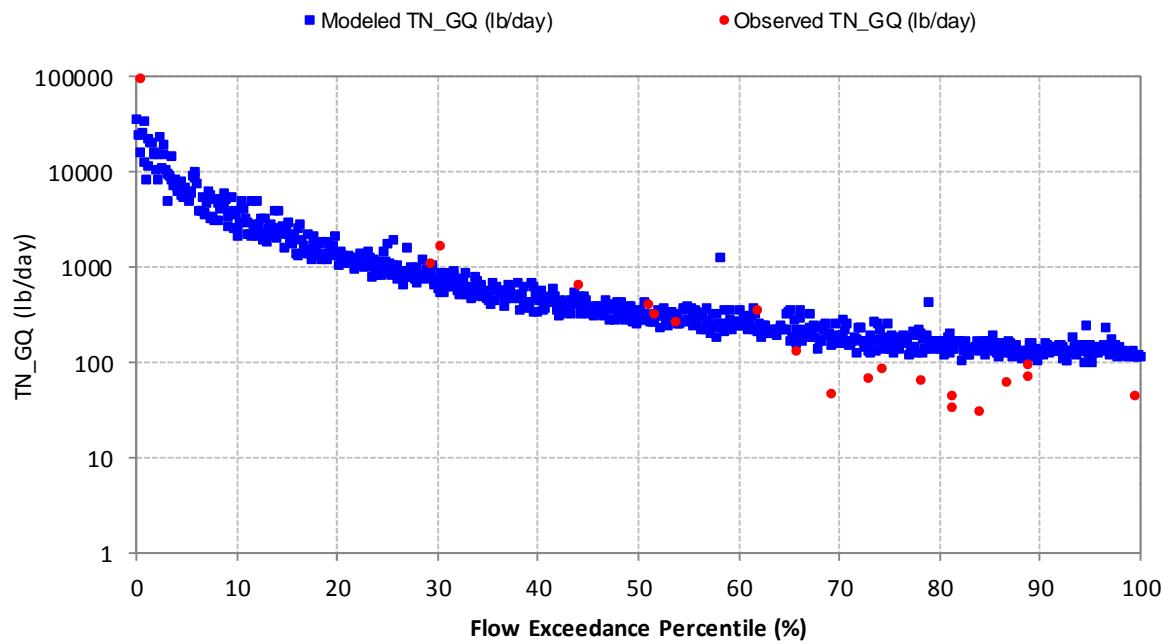


Figure B-179 Modeled vs. Observed Load TN\_GQ at 03298120

Table B-36 Modeled vs. Observed Load TN\_GQ at 03298120

Year	Simulated	Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	490,027	908,350	-46.05	841,146	-41.74
2008	592,071	1,327,766	-55.41	1,115,718	-46.93

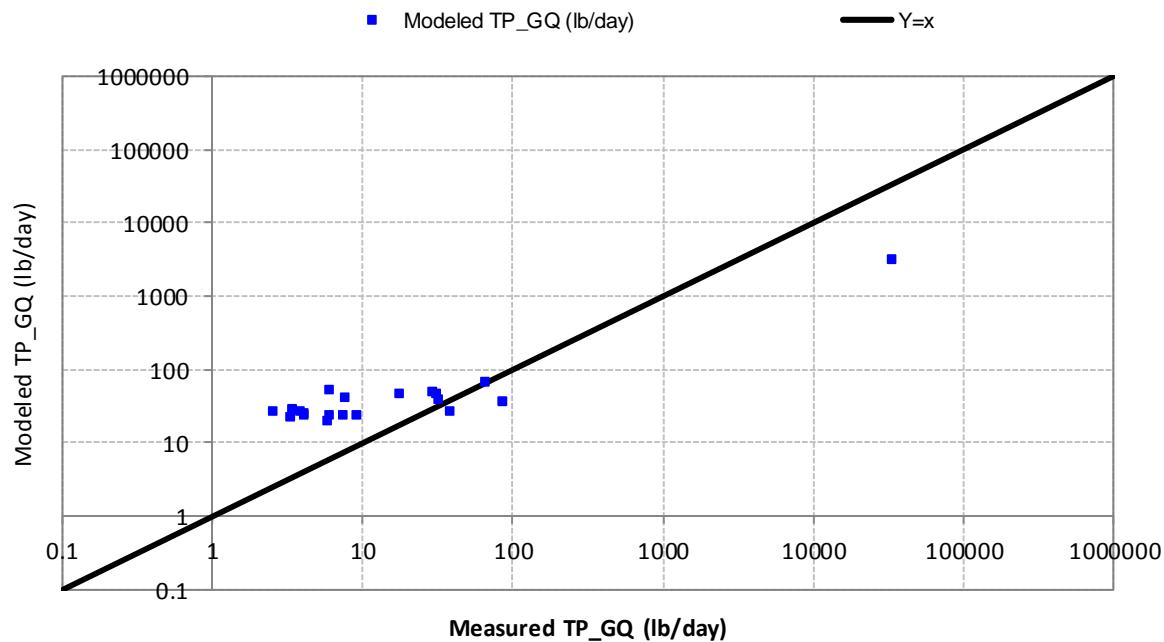


Figure B-180 Modeled vs. Observed Load TP\_GQ at 03298120

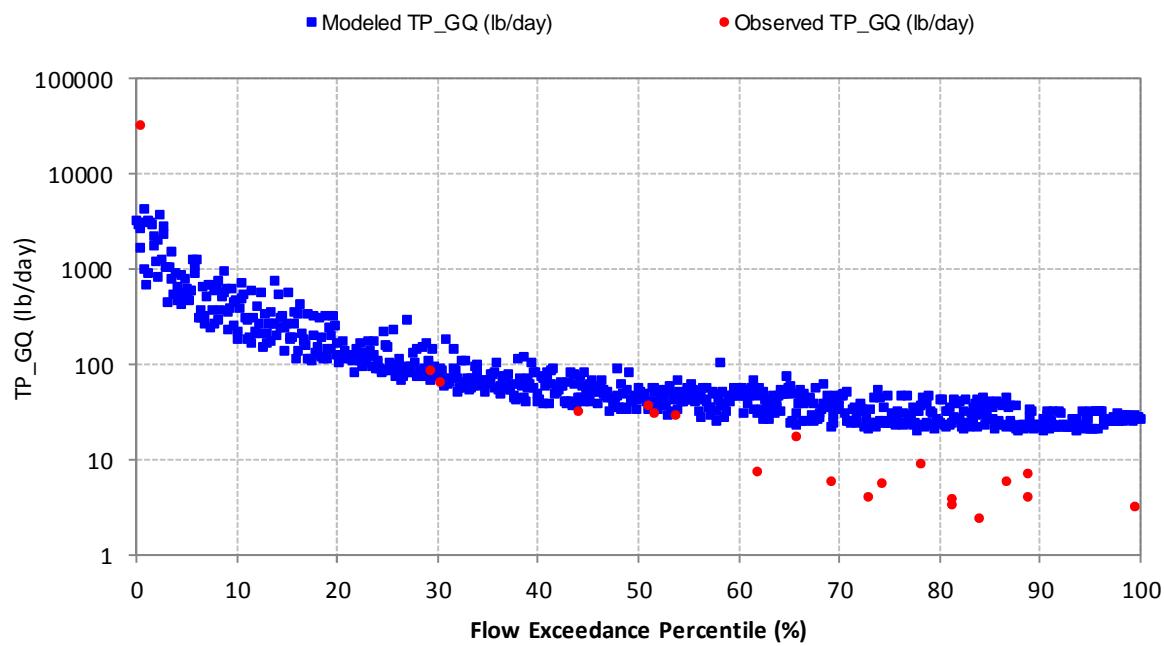


Figure B-181 Modeled vs. Observed Load TP\_GQ at 03298120

Table B-37 Modeled vs. Observed Load TP\_GQ at 03298120

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	55,897	251,813	-77.8	185,163	-69.81
2008	74,971	99,747	-24.84	74,312	0.89

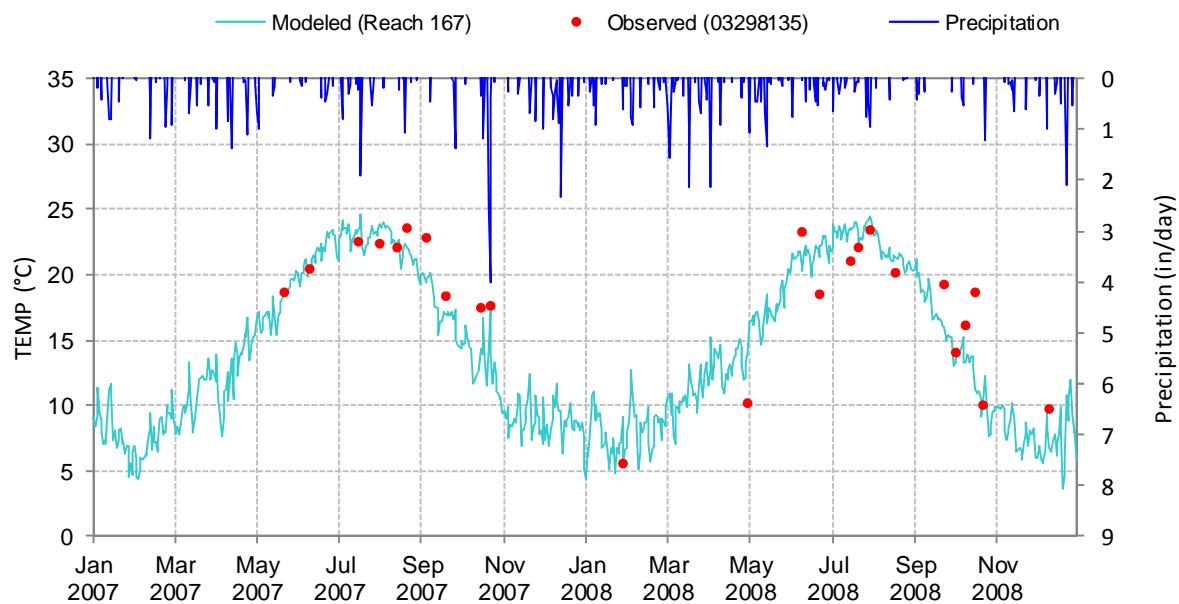


Figure B-182 Modeled vs. Observed TEMP (°C) at 03298135

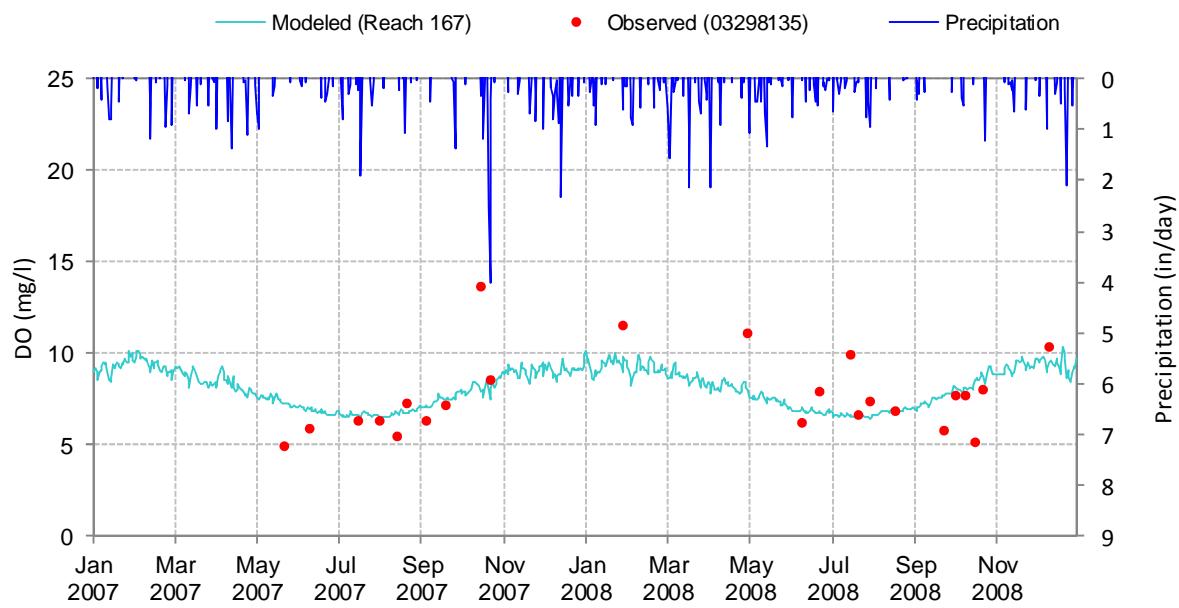


Figure B-183 Modeled vs. Observed DO (mg/l) at 03298135

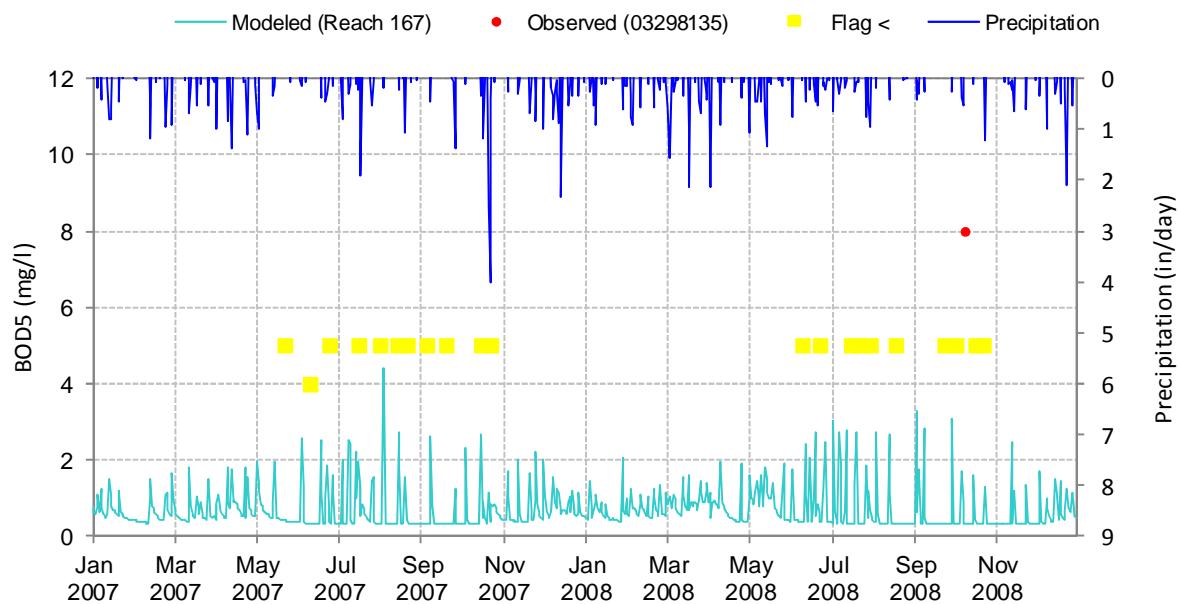


Figure B-184 Modeled vs. Observed BOD5 (mg/l) at 03298135

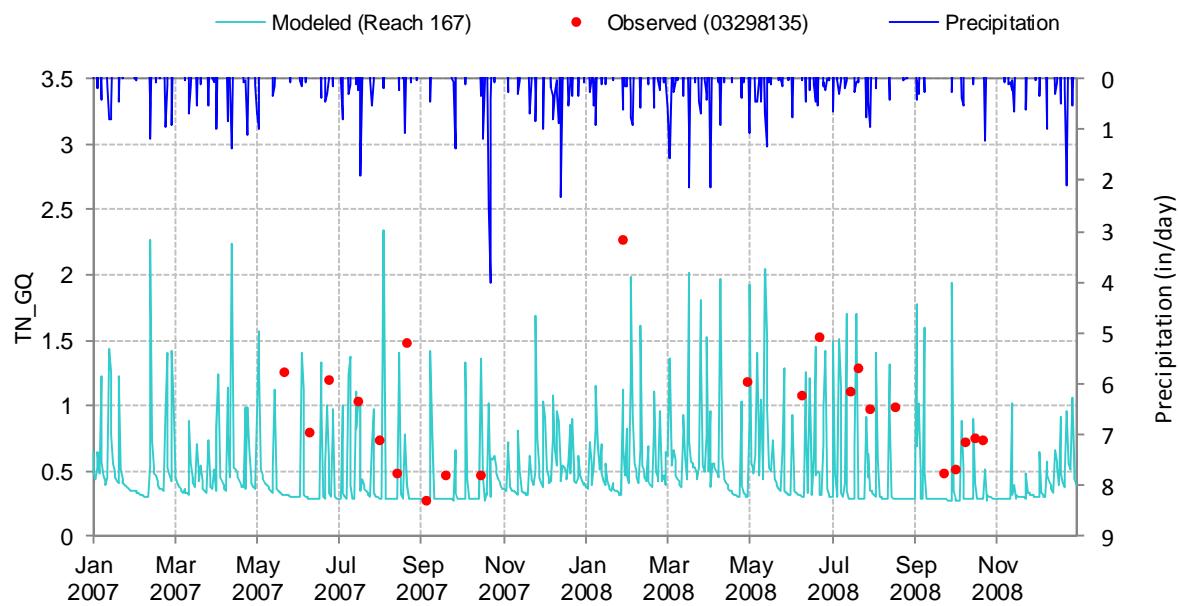


Figure B-185 Modeled vs. Observed TN\_GQ at 03298135

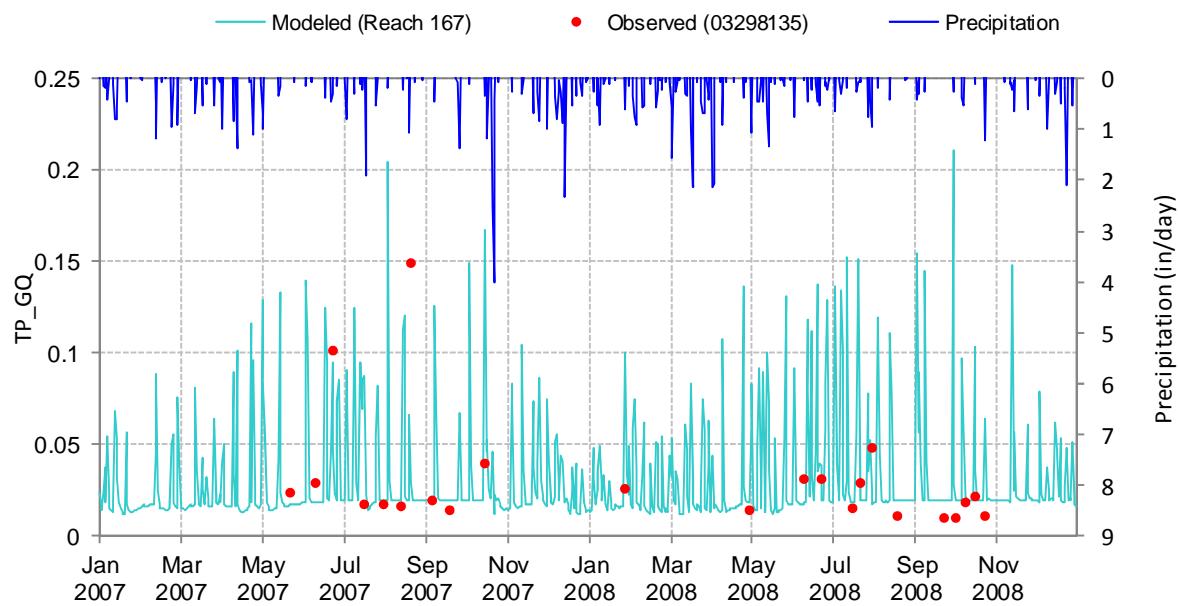


Figure B-186 Modeled vs. Observed TP\_GQ at 03298135

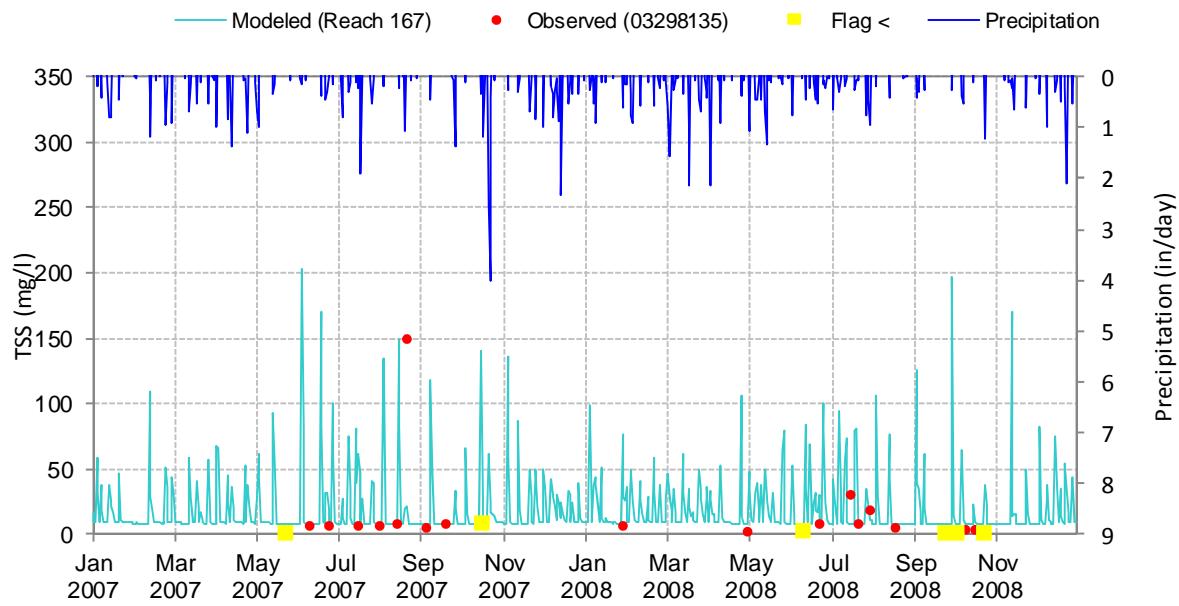


Figure B-187 Modeled vs. Observed TSS (mg/l) at 03298135

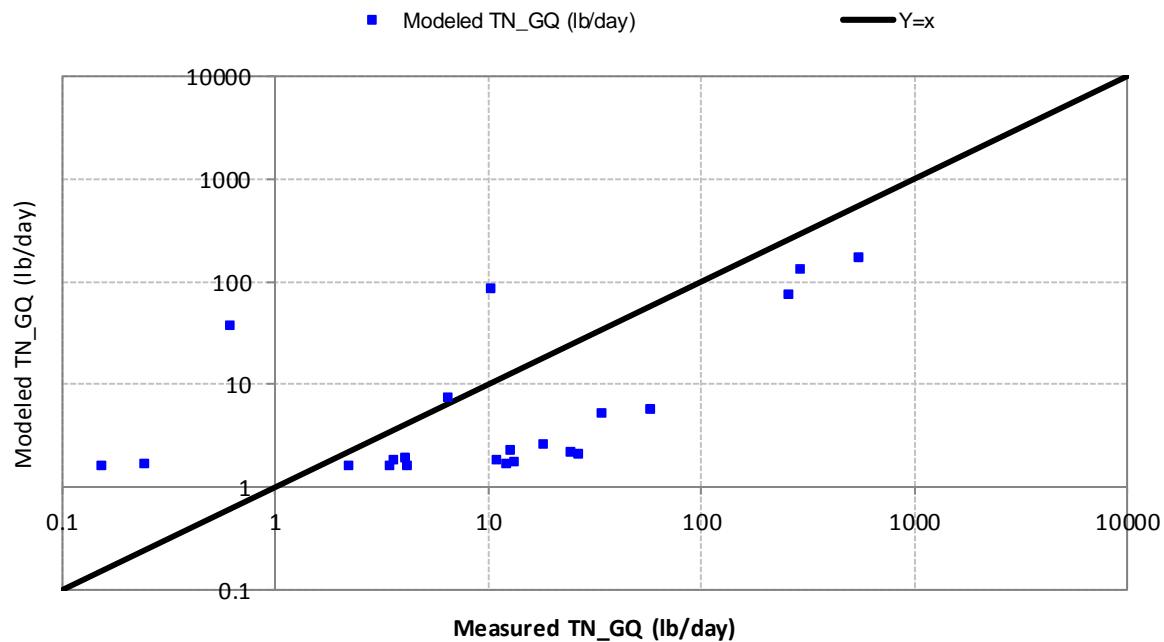


Figure B-188 Modeled vs. Observed Load TN\_GQ at 03298135

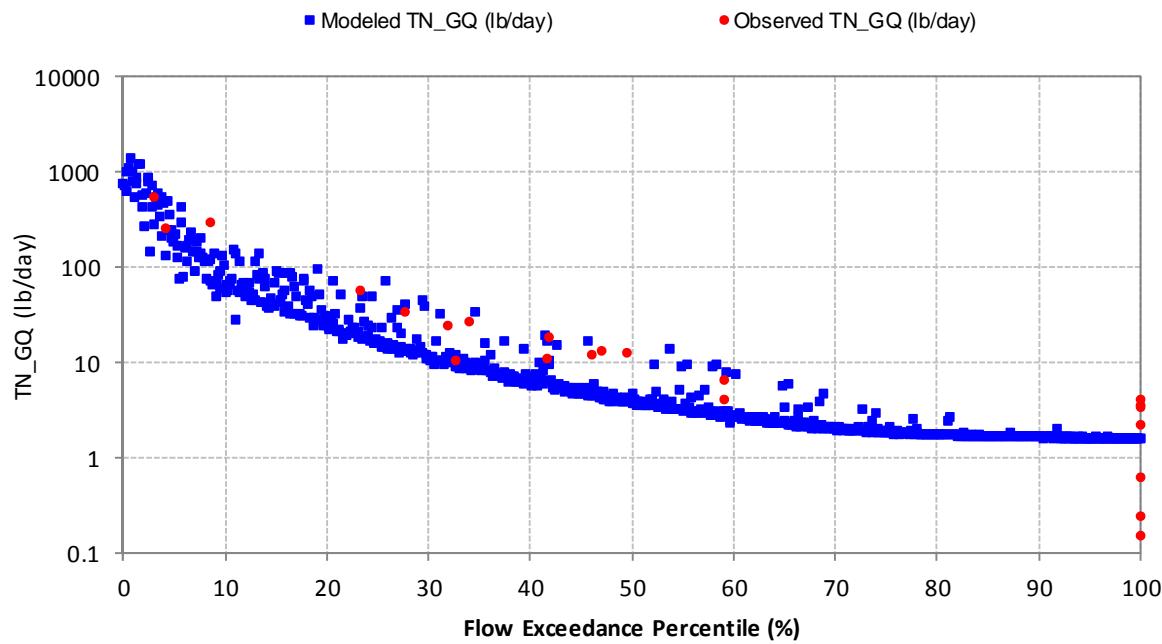


Figure B-189 Modeled vs. Observed Load TN\_GQ at 03298135

Table B-38 Modeled vs. Observed Load TN\_GQ at 03298135

Year	Simulated	Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	16,103	18,885	-14.73	23,263	-30.78
2008	19,038	40,821	-53.36	36,041	-47.18

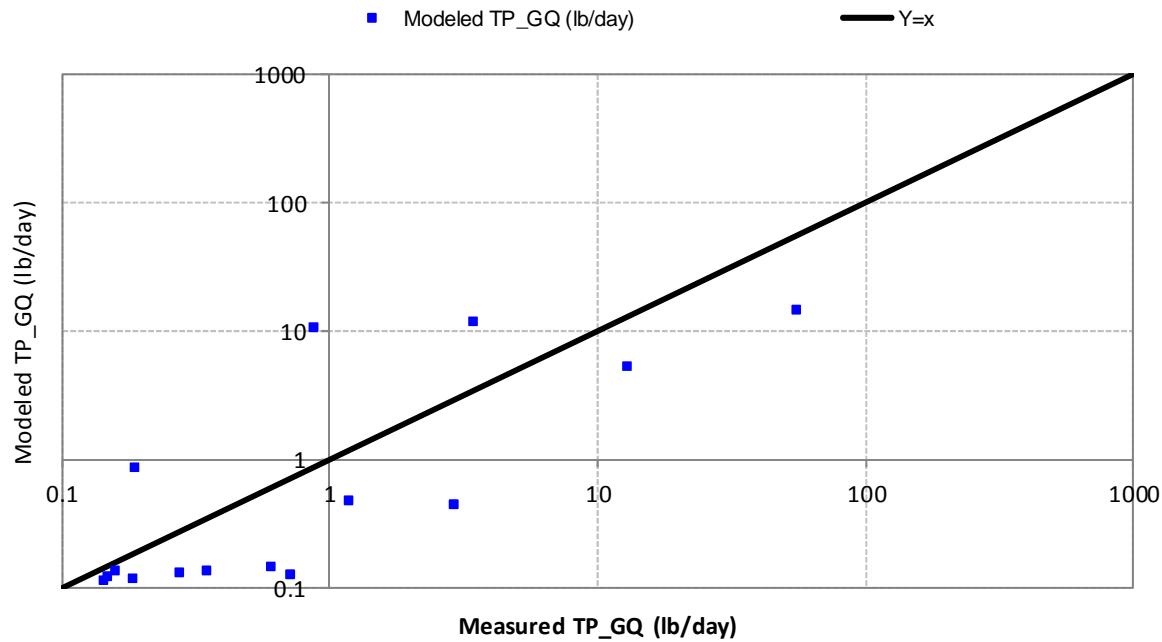


Figure B-190 Modeled vs. Observed Load TP\_GQ at 03298135

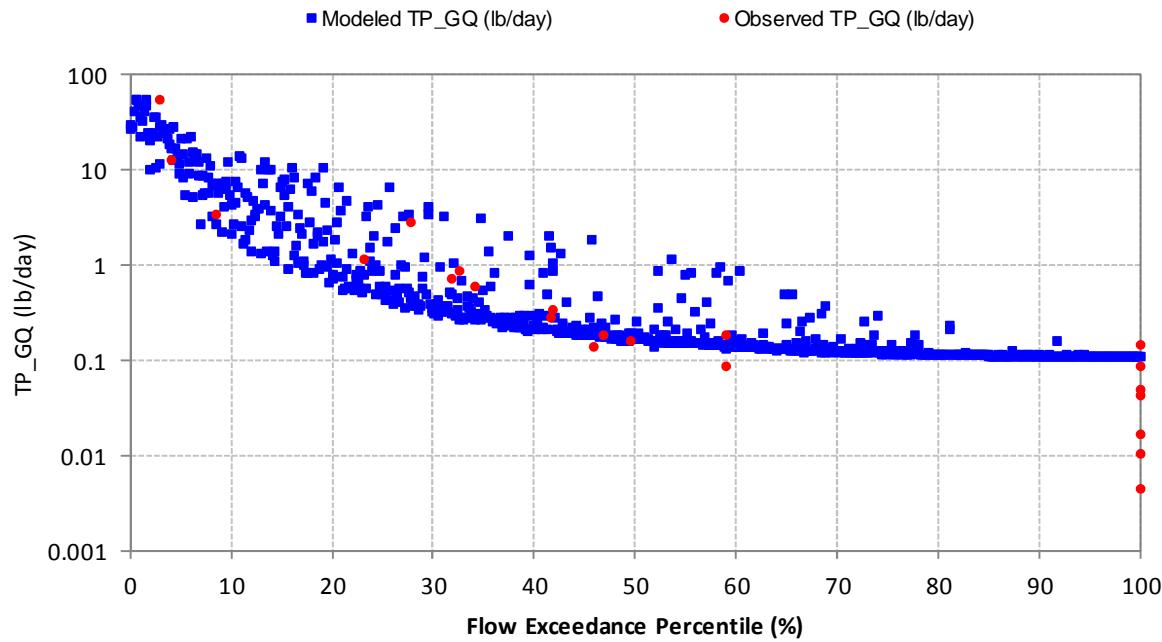


Figure B-191 Modeled vs. Observed Load TP\_GQ at 03298135

Table B-39 Modeled vs. Observed Load TP\_GQ at 03298135

Year	Simulated	Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	878	738	18.96	709	23.81
2008	983	598	64.35	552	78.18

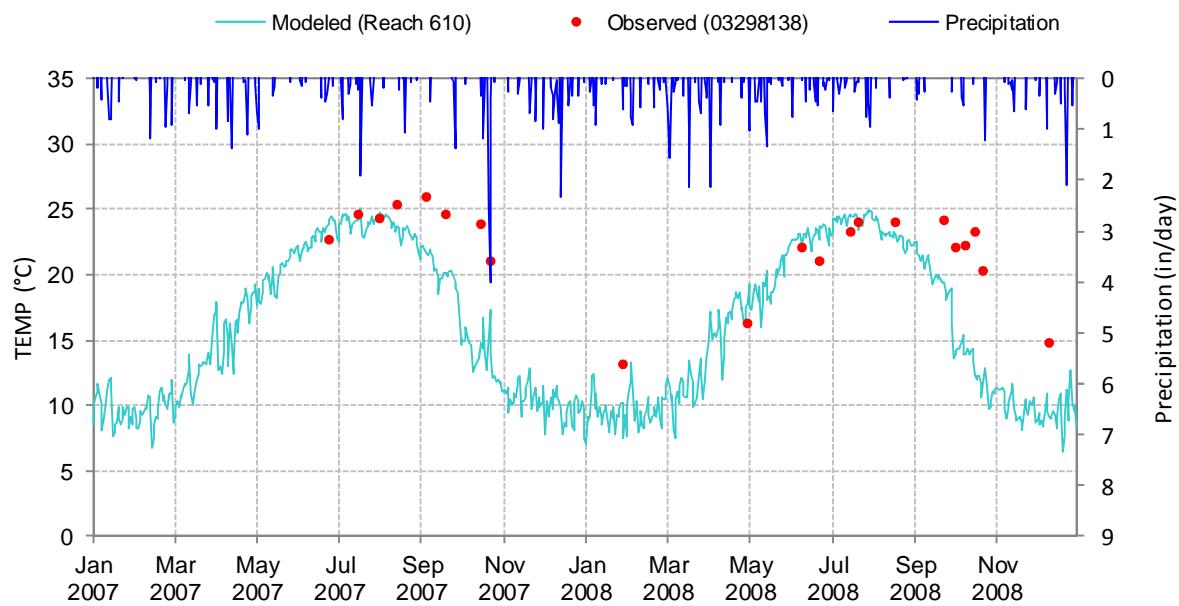
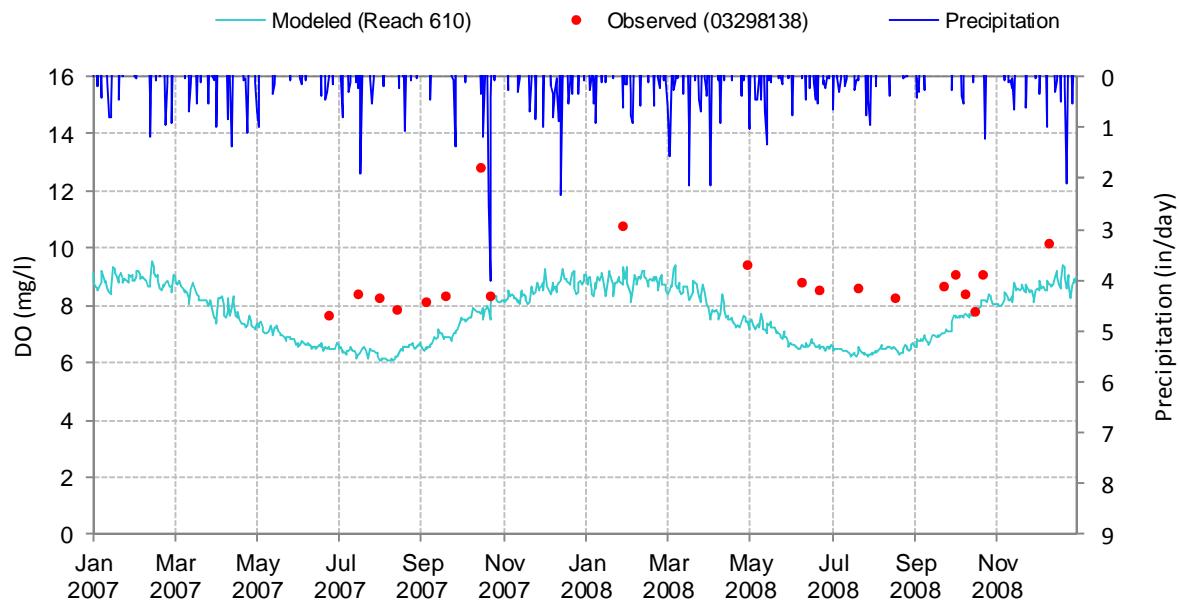
Figure B-192 Modeled vs. Observed TEMP ( $^{\circ}\text{C}$ ) at 03298138

Figure B-193 Modeled vs. Observed DO (mg/l) at 03298138

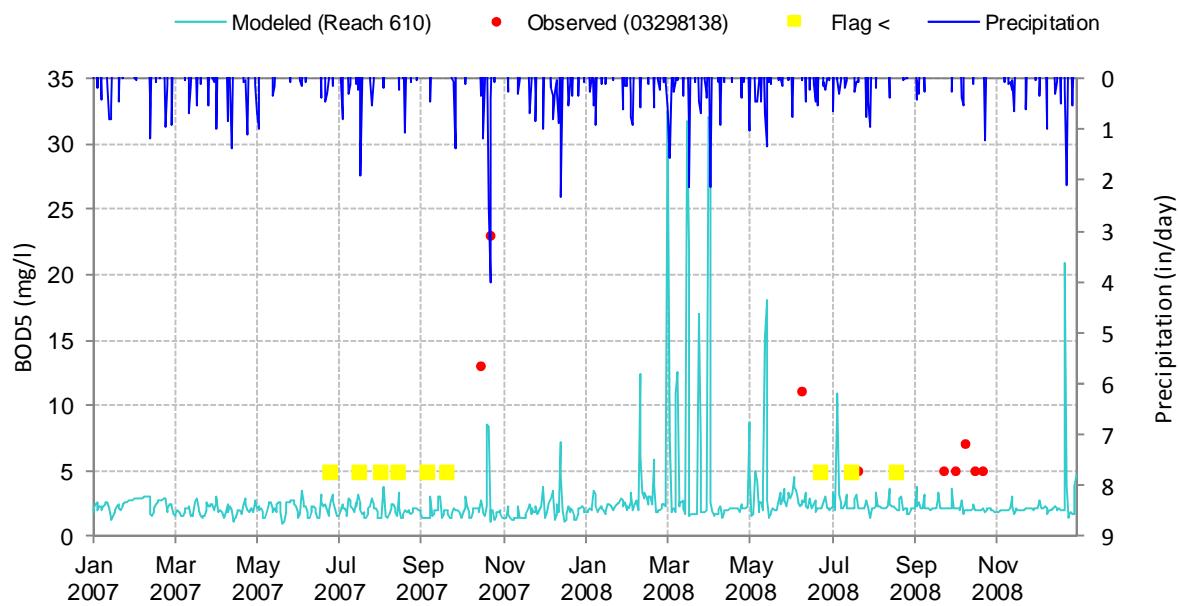


Figure B-194 Modeled vs. Observed BOD5 (mg/l) at 03298138

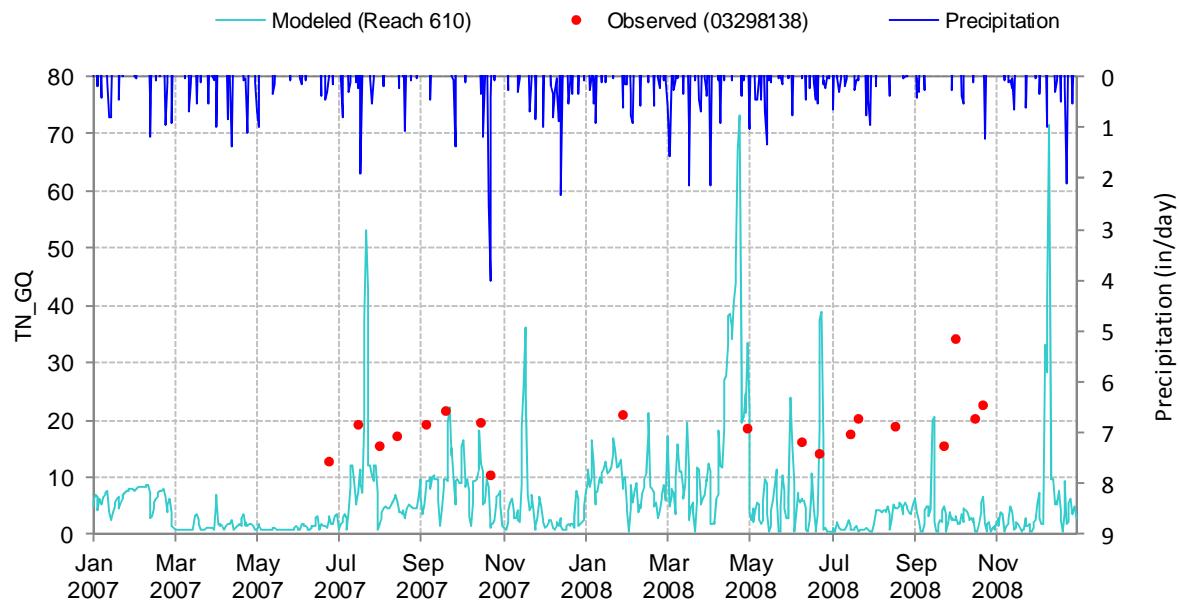


Figure B-195 Modeled vs. Observed TN\_GQ at 03298138

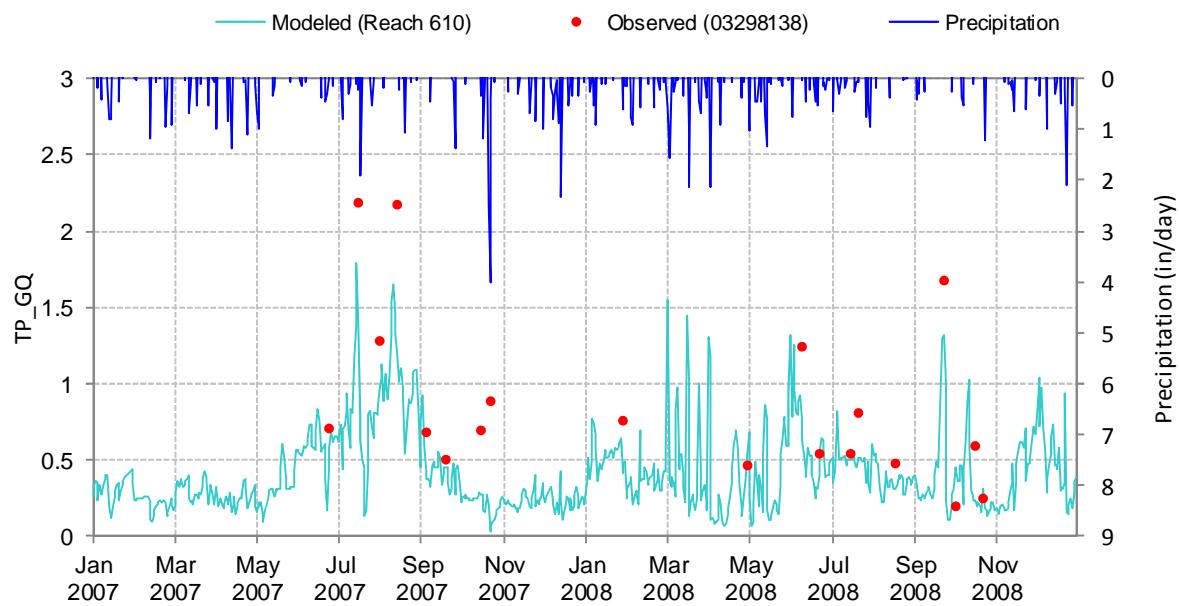


Figure B-196 Modeled vs. Observed TP\_GQ at 03298138

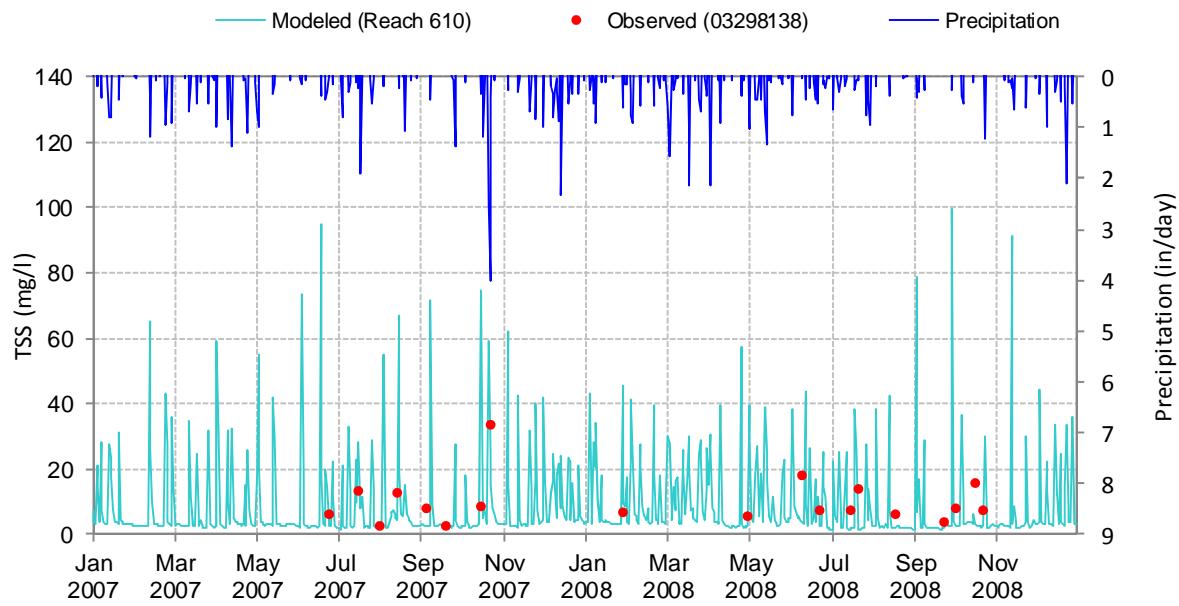


Figure B-197 Modeled vs. Observed TSS (mg/l) at 03298138

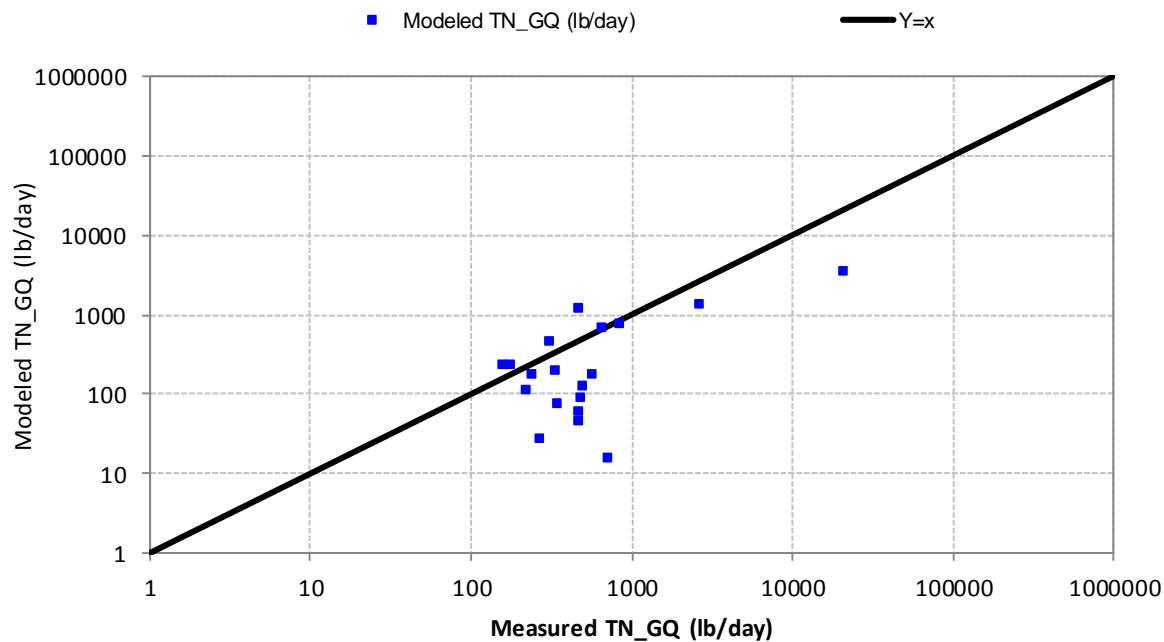


Figure B-198 Modeled vs. Observed Load TN\_GQ at 03298138

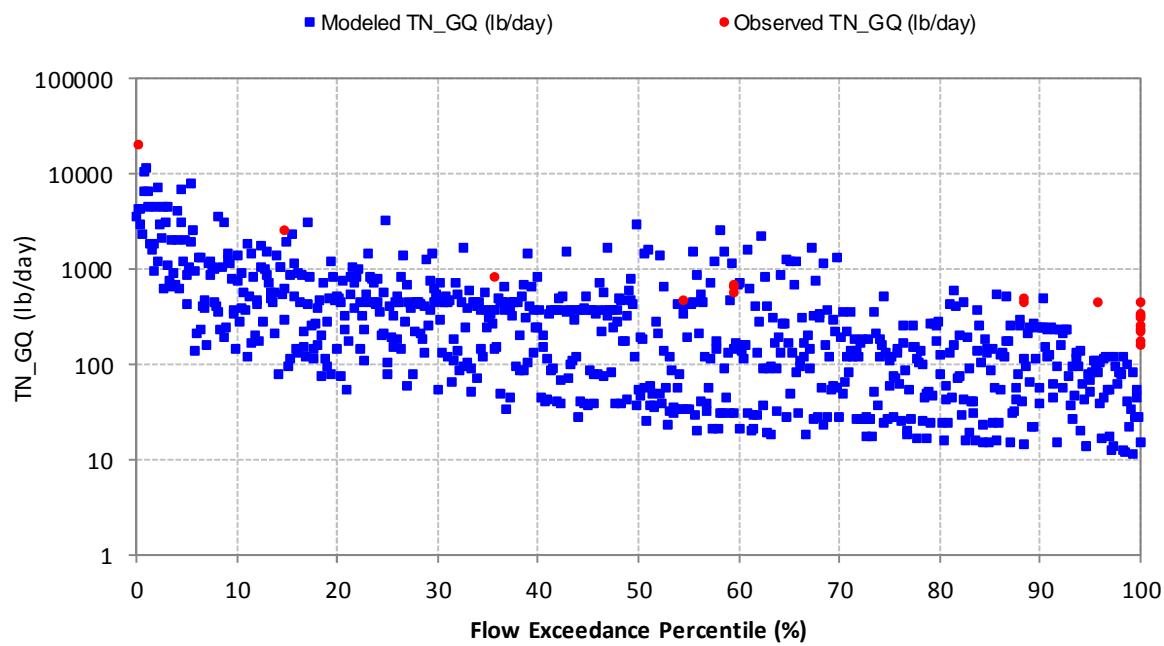


Figure B-199 Modeled vs. Observed Load TN\_GQ at 03298138

Table B-40 Modeled vs. Observed Load TN\_GQ at 03298138

Year	Simulated	Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	126,334	384,834	-67.17	418,960	-69.85
2008	242,095	718,912	-66.32	713,548	-66.07

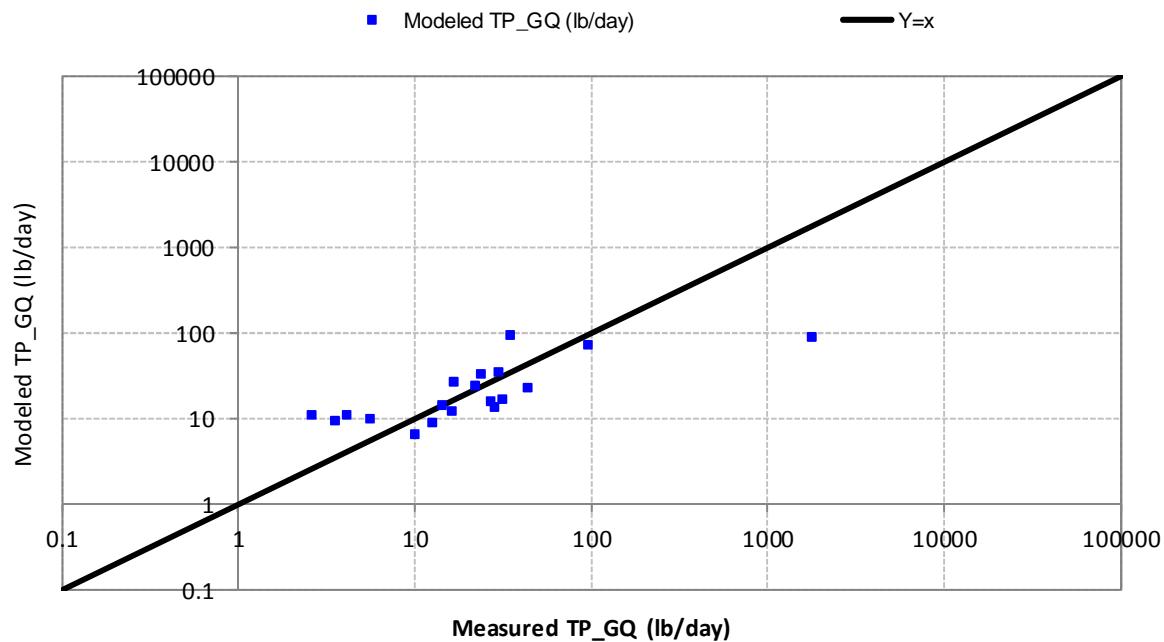


Figure B-200 Modeled vs. Observed Load TP\_GQ at 03298138

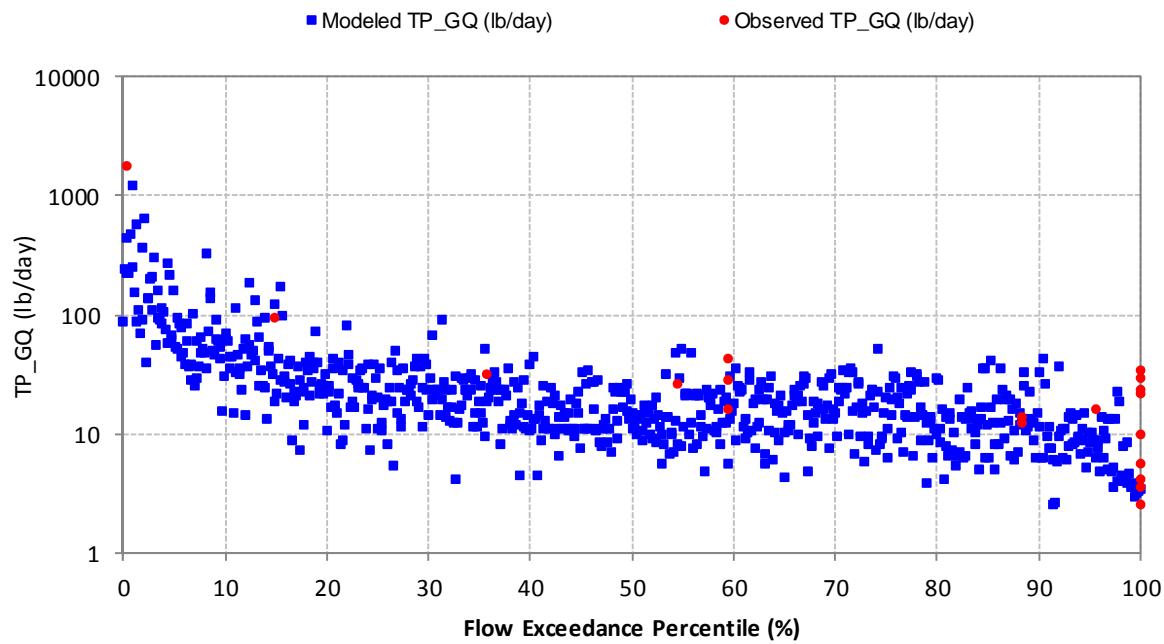


Figure B-201 Modeled vs. Observed Load TP\_GQ at 03298138

Table B-41 Modeled vs. Observed Load TP\_GQ at 03298138

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	9,366	25,637	-63.47	25,384	-63.1
2008	14,443	24,456	-40.94	23,304	-38.02

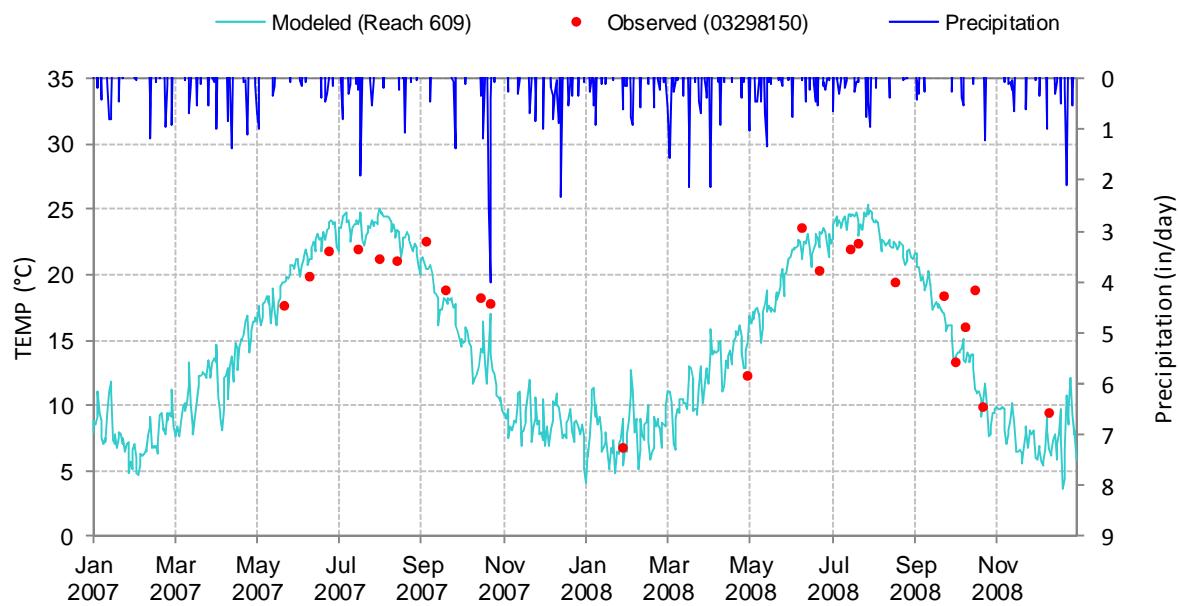


Figure B-202 Modeled vs. Observed TEMP (°C) at 03298150

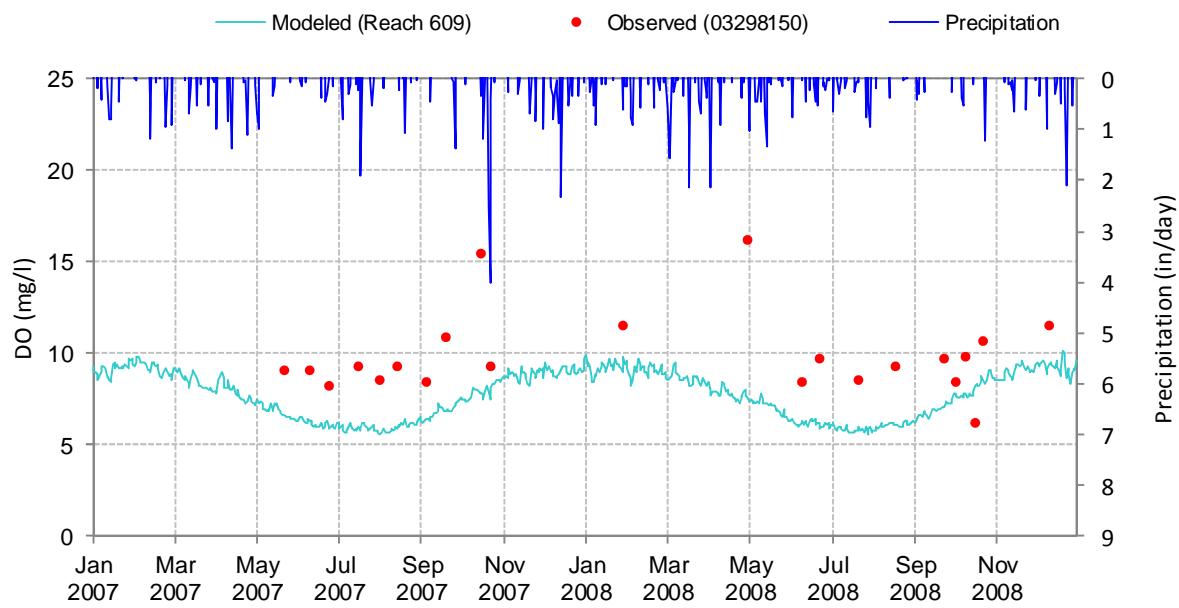


Figure B-203 Modeled vs. Observed DO (mg/l) at 03298150

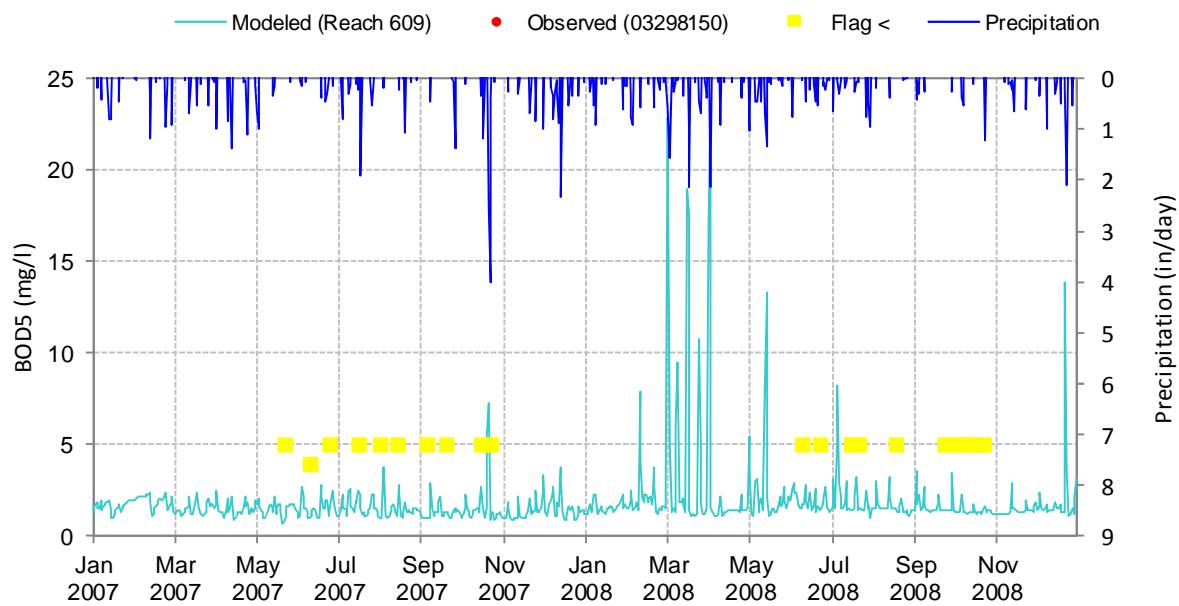


Figure B-204 Modeled vs. Observed BOD5 (mg/l) at 03298150

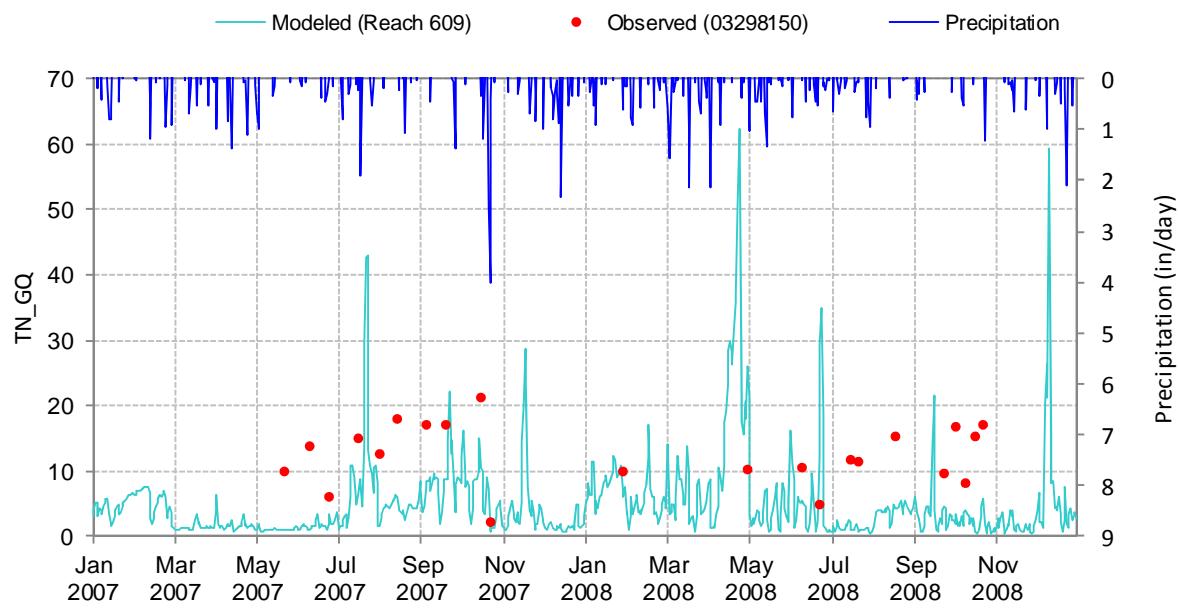


Figure B-205 Modeled vs. Observed TN\_GQ at 03298150

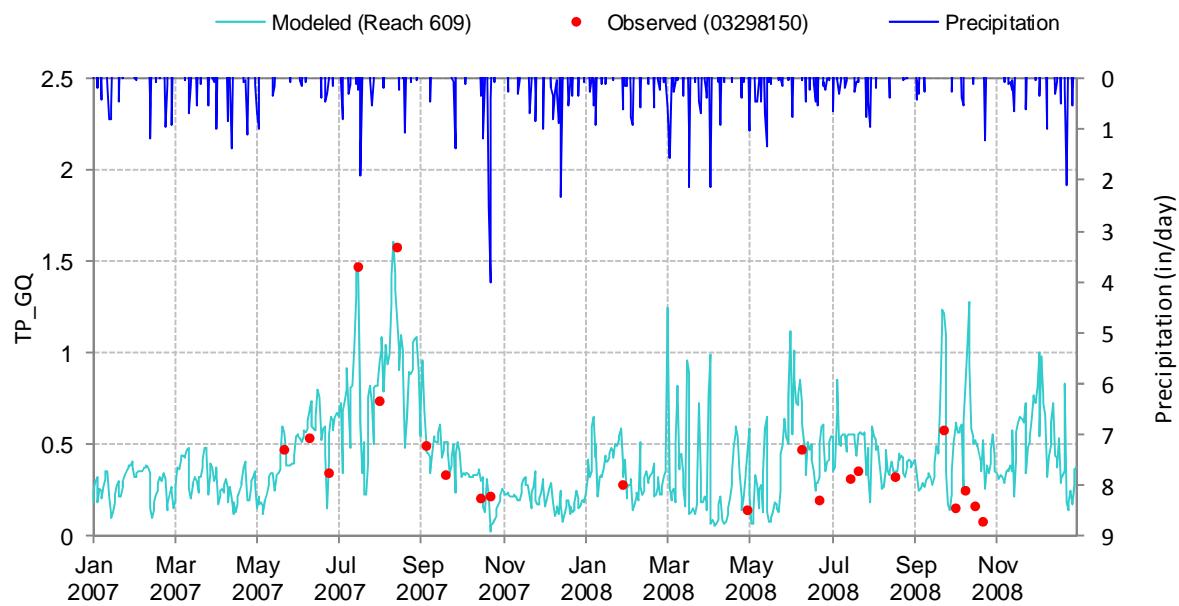


Figure B-206 Modeled vs. Observed TP\_GQ at 03298150

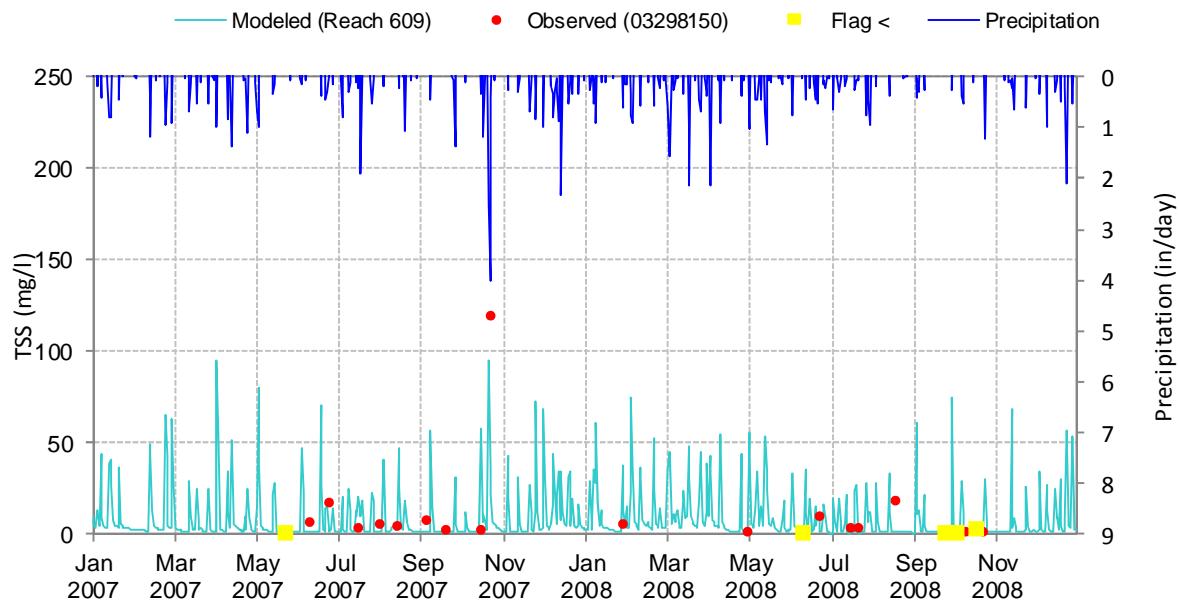


Figure B-207 Modeled vs. Observed TSS (mg/l) at 03298150

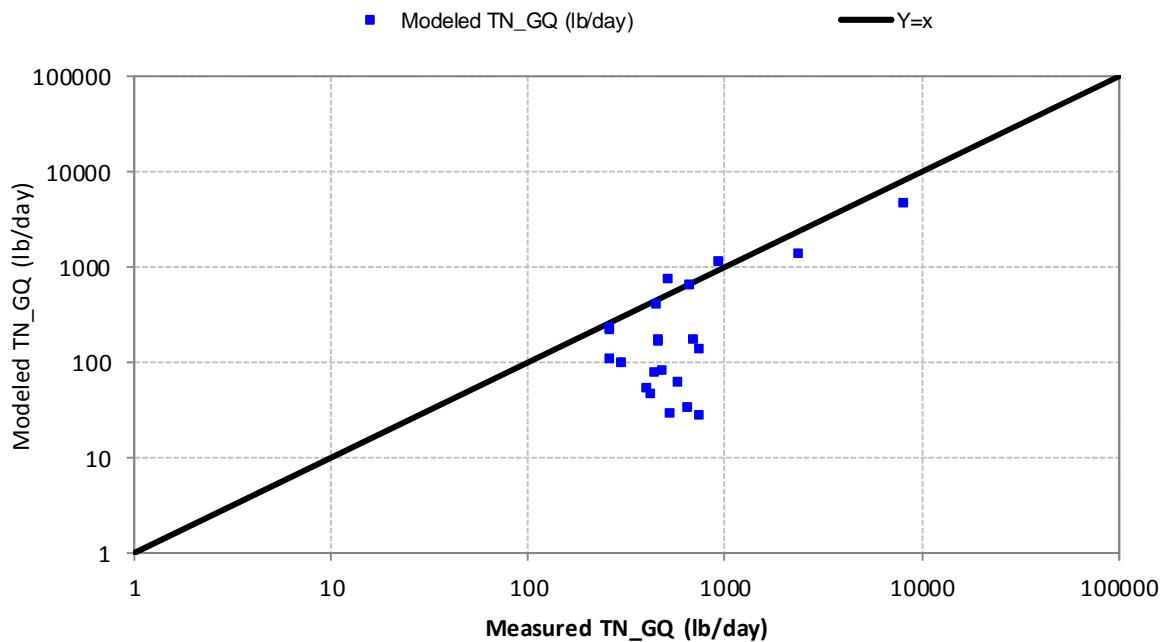


Figure B-208 Modeled vs. Observed Load TN\_GQ at 03298150

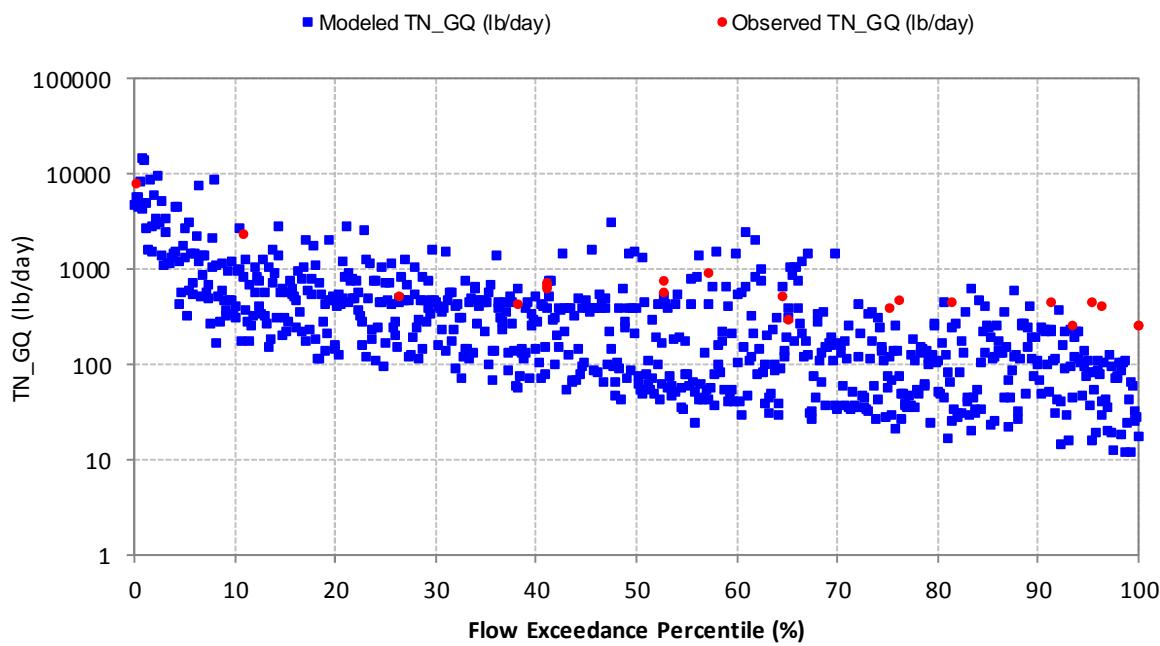


Figure B-209 Modeled vs. Observed Load TN\_GQ at 03298150

Table B-42 Modeled vs. Observed Load TN\_GQ at 03298150

Year	Simulated	Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	146,534	454,824	-67.78	495,609	-70.43
2008	260,725	695,282	-62.5	734,674	-64.51

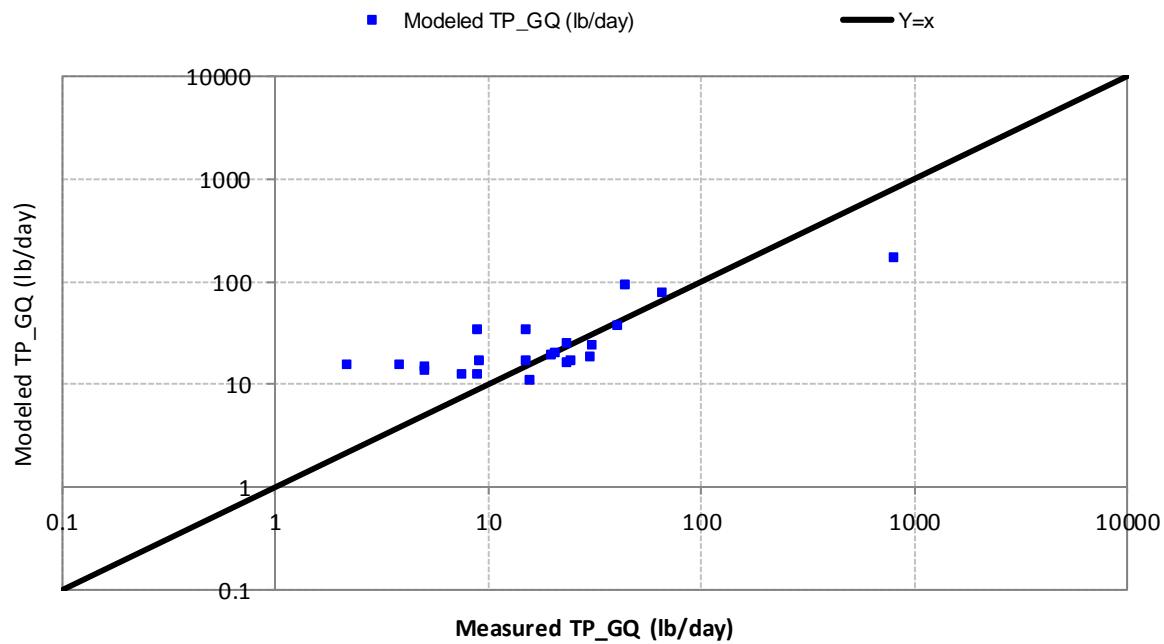


Figure B-210 Modeled vs. Observed Load TP\_GQ at 03298150

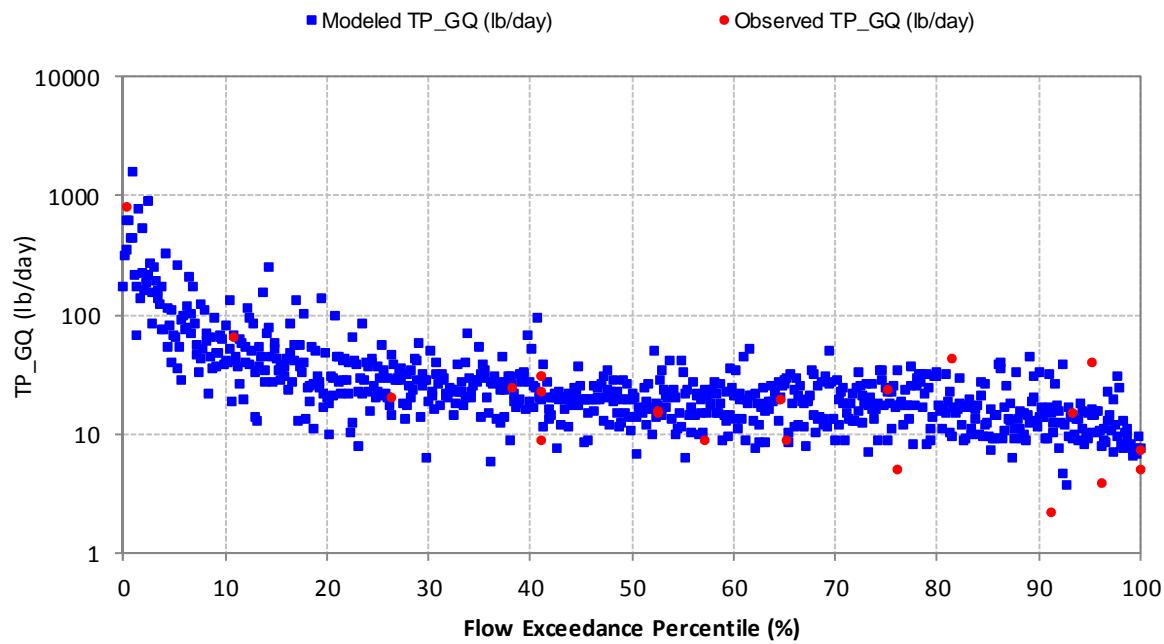


Figure B-211 Modeled vs. Observed Load TP\_GQ at 03298150

Table B-43 Modeled vs. Observed Load TP\_GQ at 03298150

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	12,167	24,041	-49.39	24,514	-50.37
2008	17,262	16,285	6	16,079	7.36

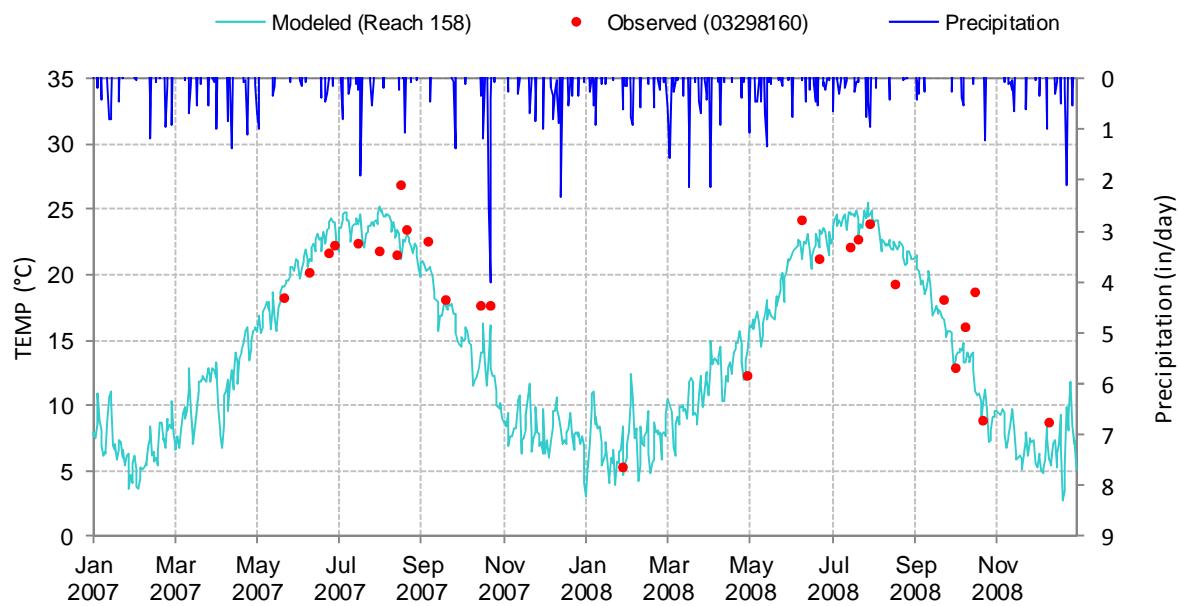


Figure B-212 Modeled vs. Observed TEMP (°C) at 03298160

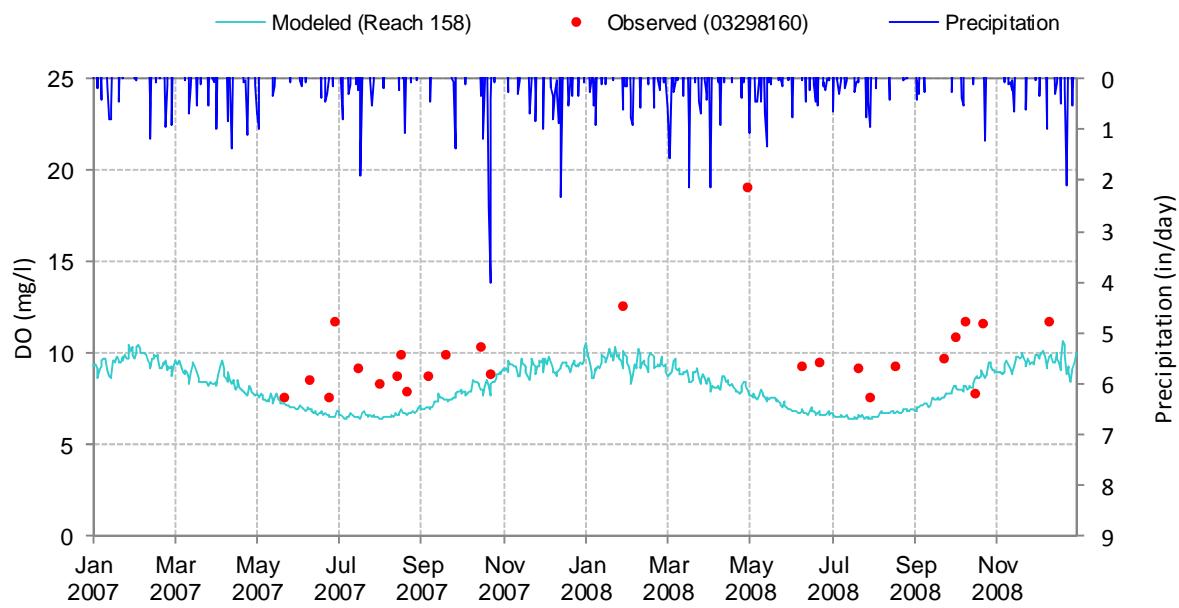


Figure B-213 Modeled vs. Observed DO (mg/l) at 03298160

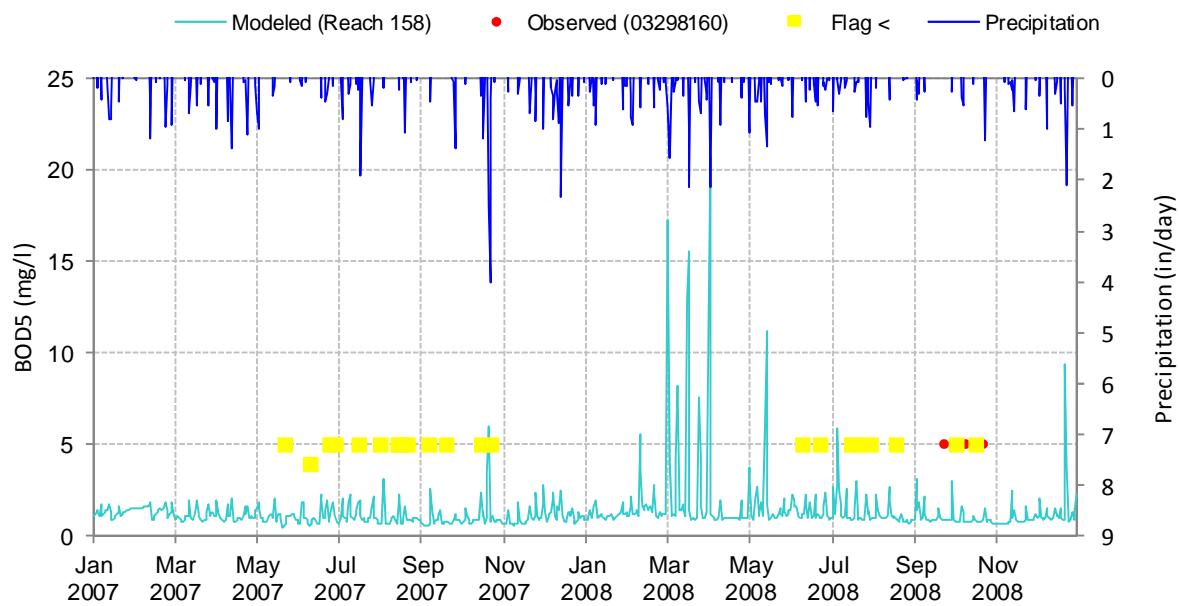


Figure B-214 Modeled vs. Observed BOD5 (mg/l) at 03298160

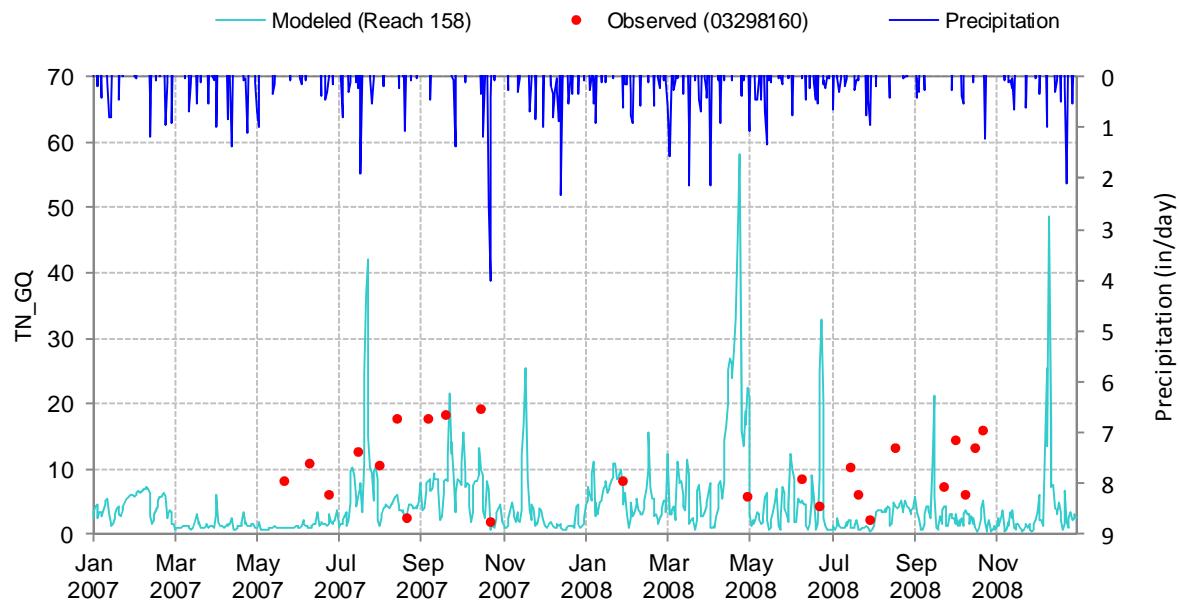


Figure B-215 Modeled vs. Observed TN\_GQ at 03298160

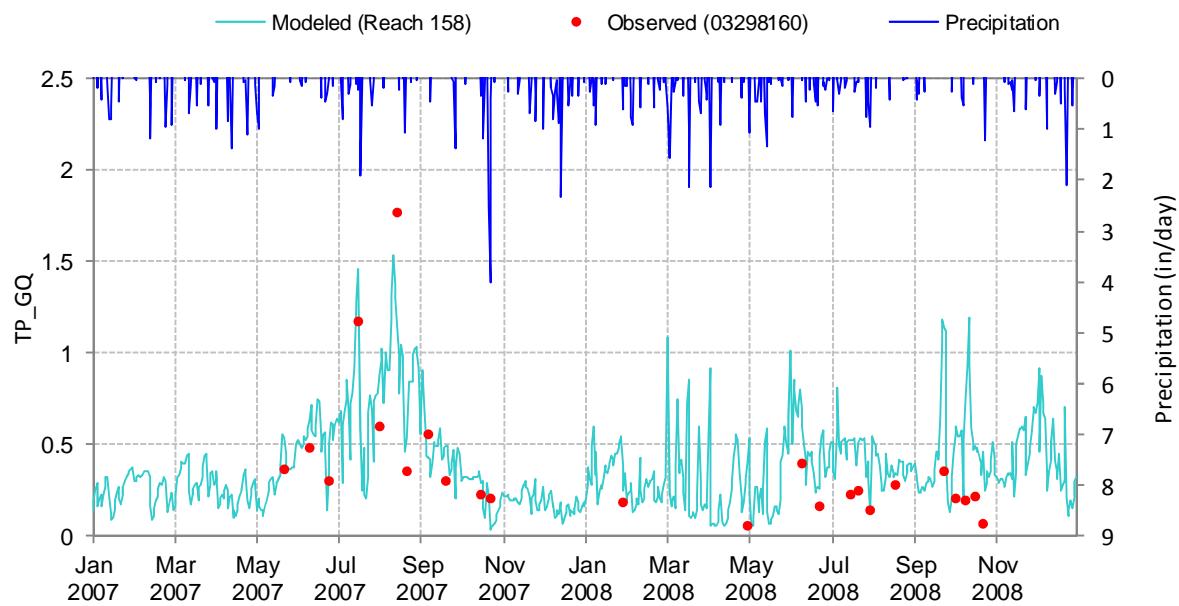


Figure B-216 Modeled vs. Observed TP\_GQ at 03298160

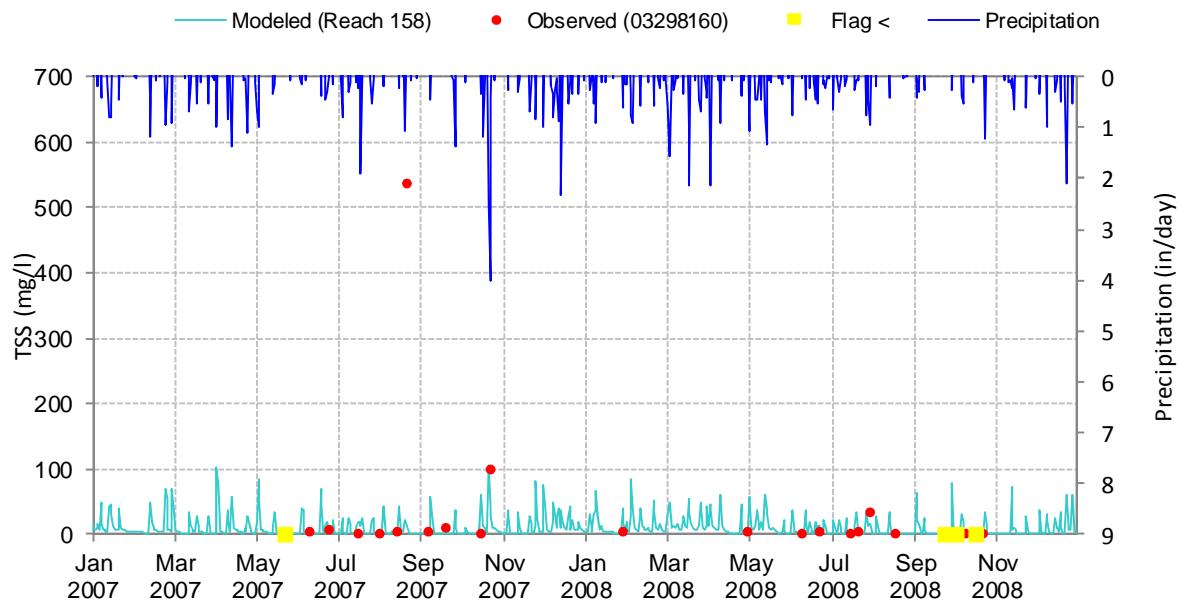


Figure B-217 Modeled vs. Observed TSS (mg/l) at 03298160

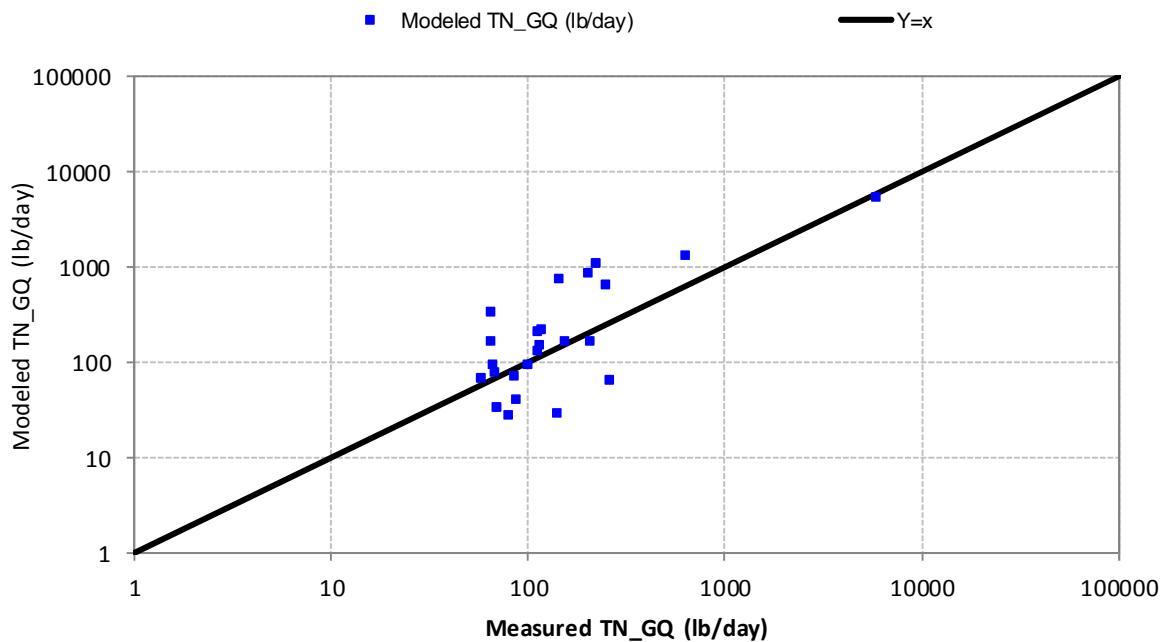


Figure B-218 Modeled vs. Observed Load TN\_GQ at 03298160

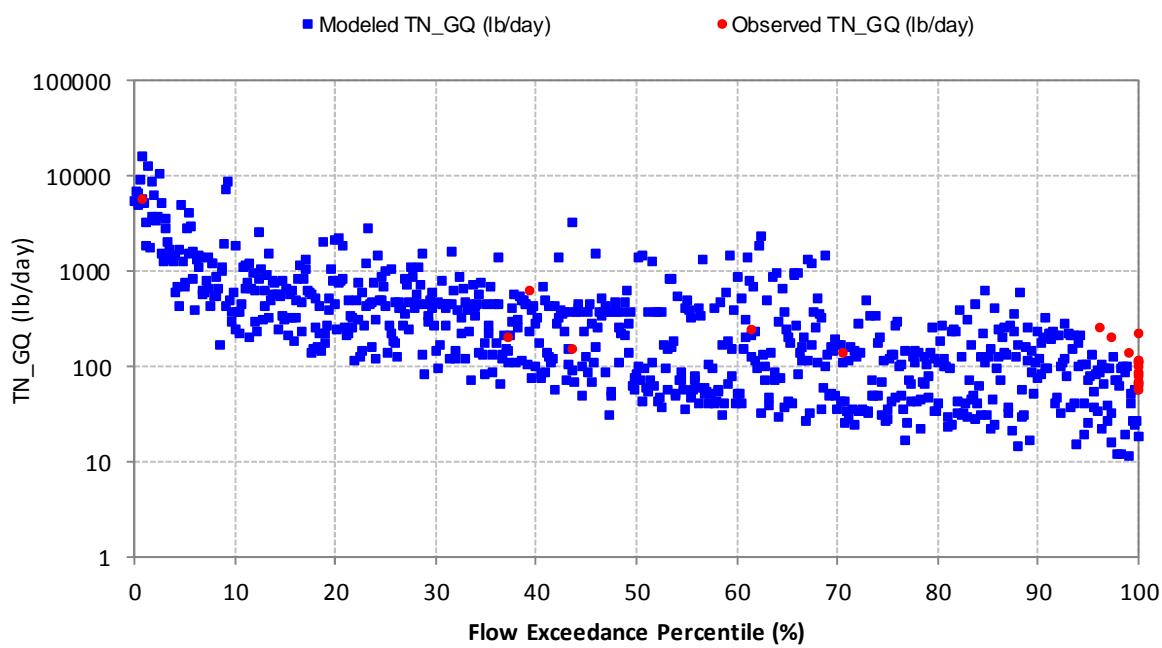


Figure B-219 Modeled vs. Observed Load TN\_GQ at 03298160

Table B-44 Modeled vs. Observed Load TN\_GQ at 03298160

Year	Simulated	Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	151,216	269,829	-43.96	311,857	-51.51
2008	262,346	471,588	-44.37	462,274	-43.25

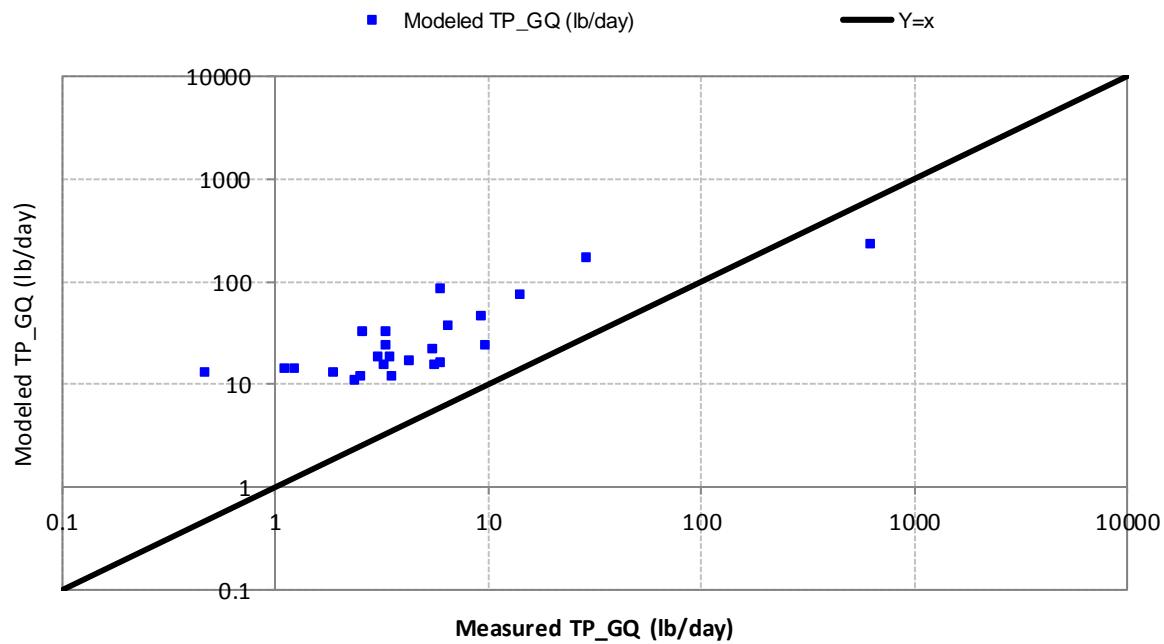


Figure B-220 Modeled vs. Observed Load TP\_GQ at 03298160

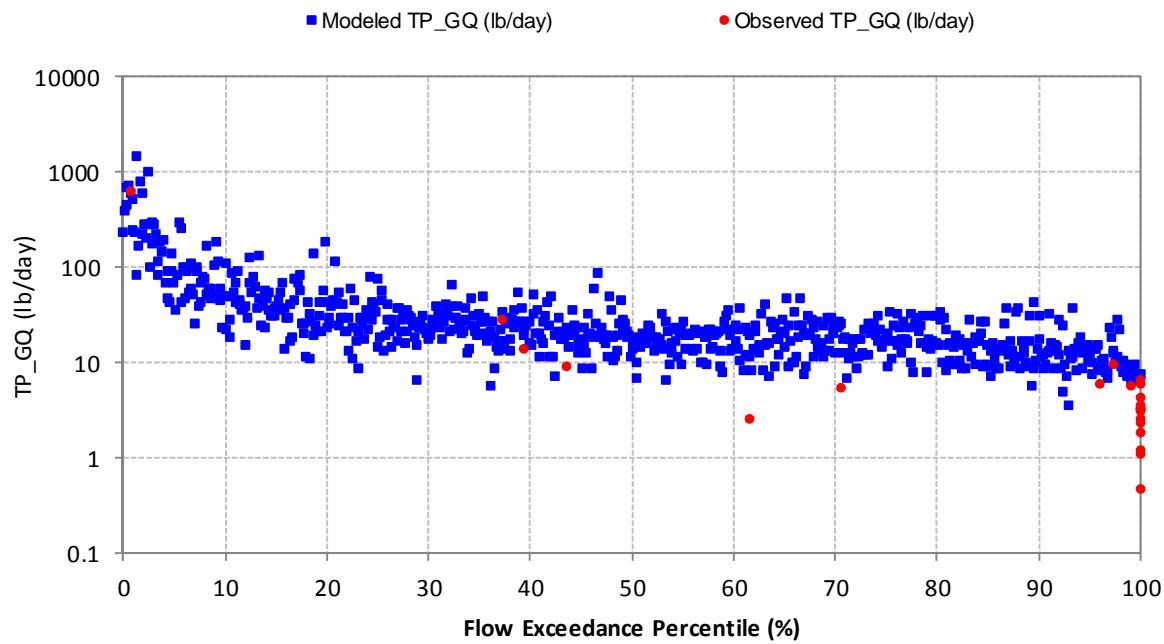


Figure B-221 Modeled vs. Observed Load TP\_GQ at 03298160

Table B-45 Modeled vs. Observed Load TP\_GQ at 03298160

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	12,578	14,298	-12.03	14,374	-12.49
2008	17,728	10,061	76.21	8,938	98.34

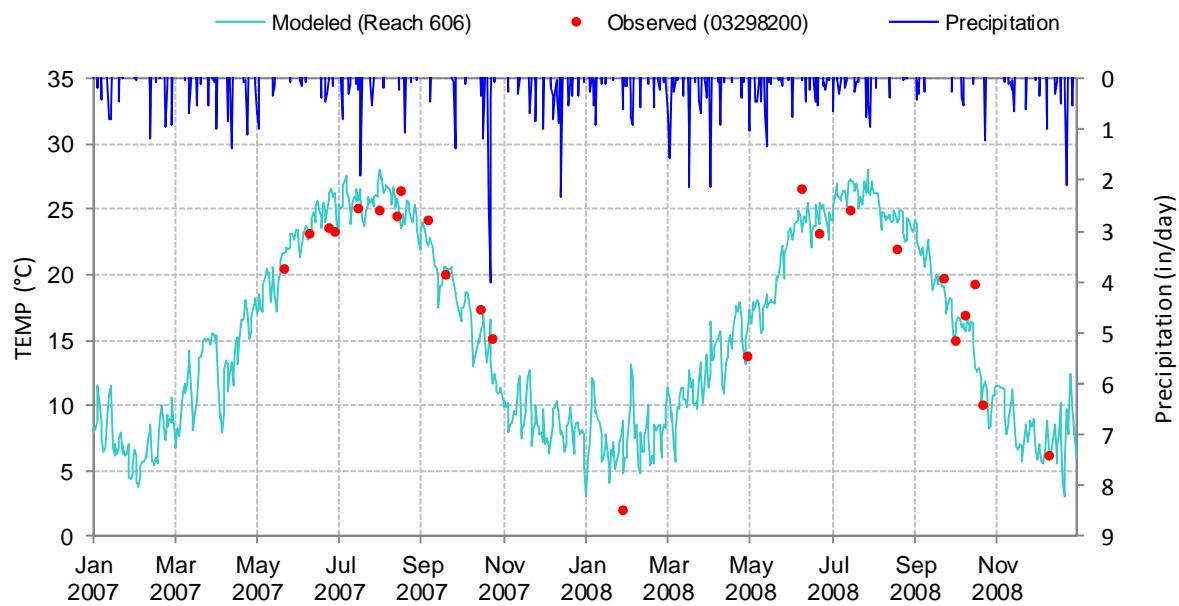


Figure B-222 Modeled vs. Observed TEMP (°C) at 03298200

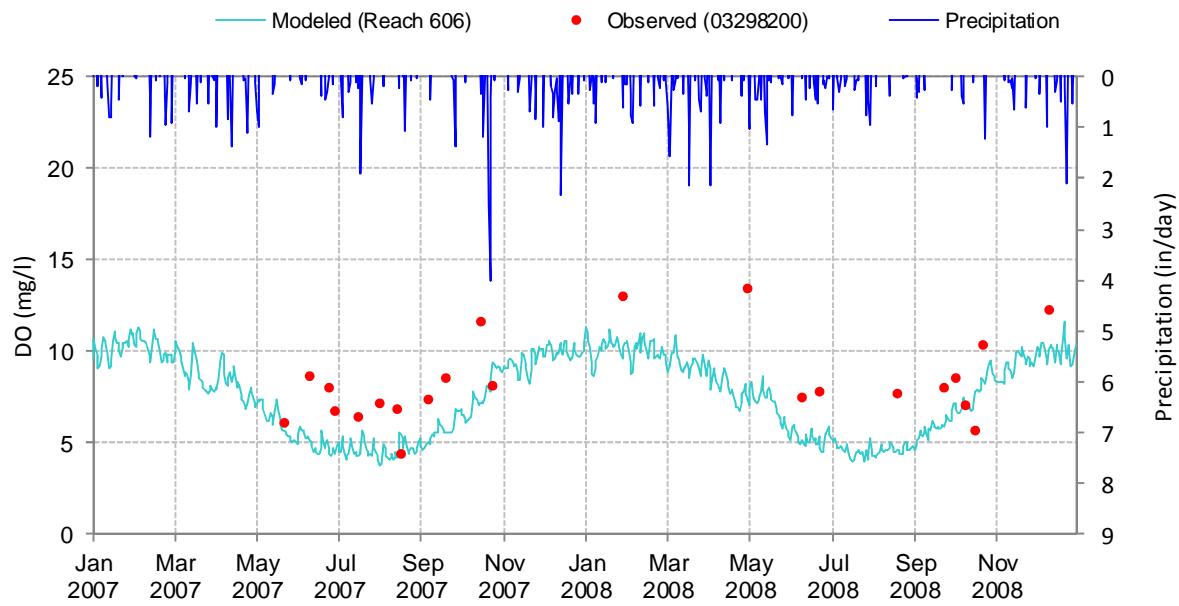


Figure B-223 Modeled vs. Observed DO (mg/l) at 03298200

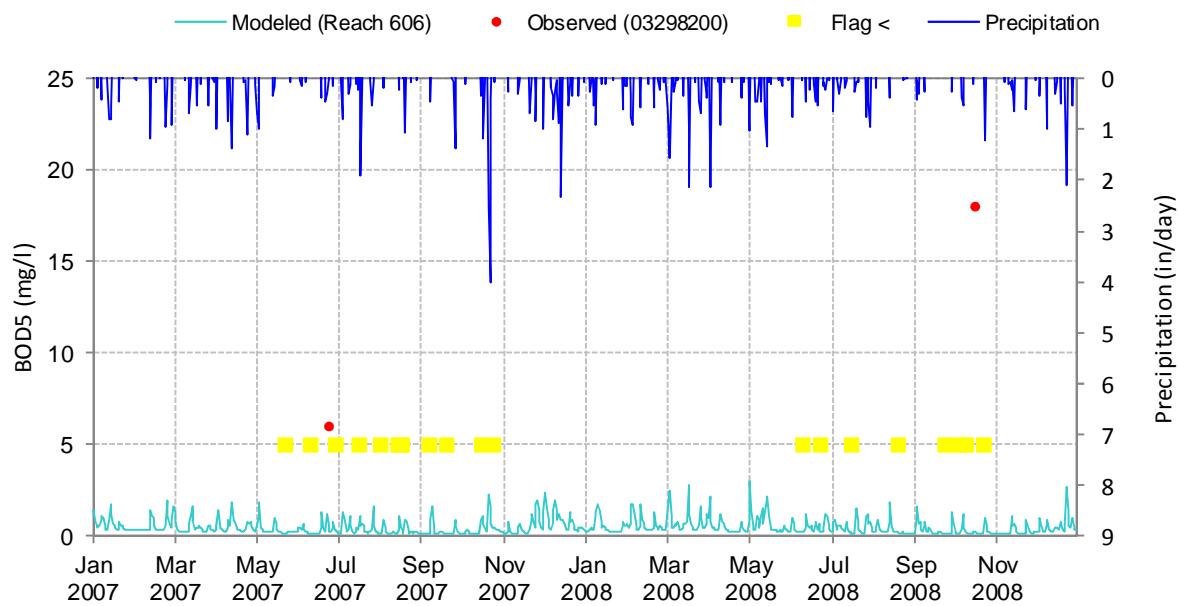


Figure B-224 Modeled vs. Observed BOD5 (mg/l) at 03298200

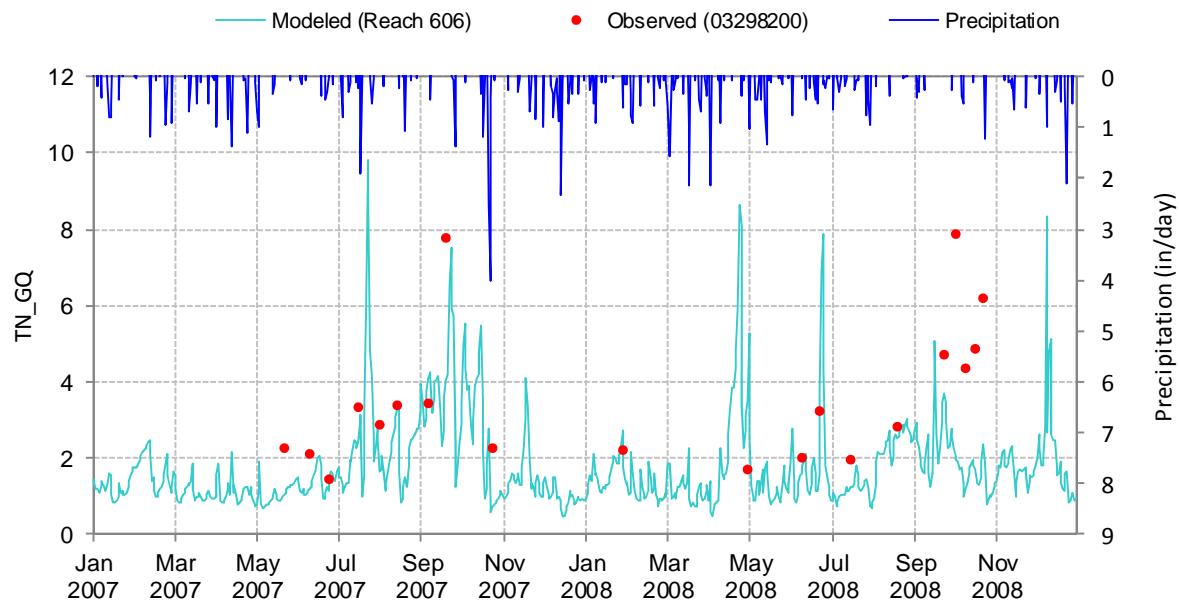


Figure B-225 Modeled vs. Observed TN\_GQ at 03298200

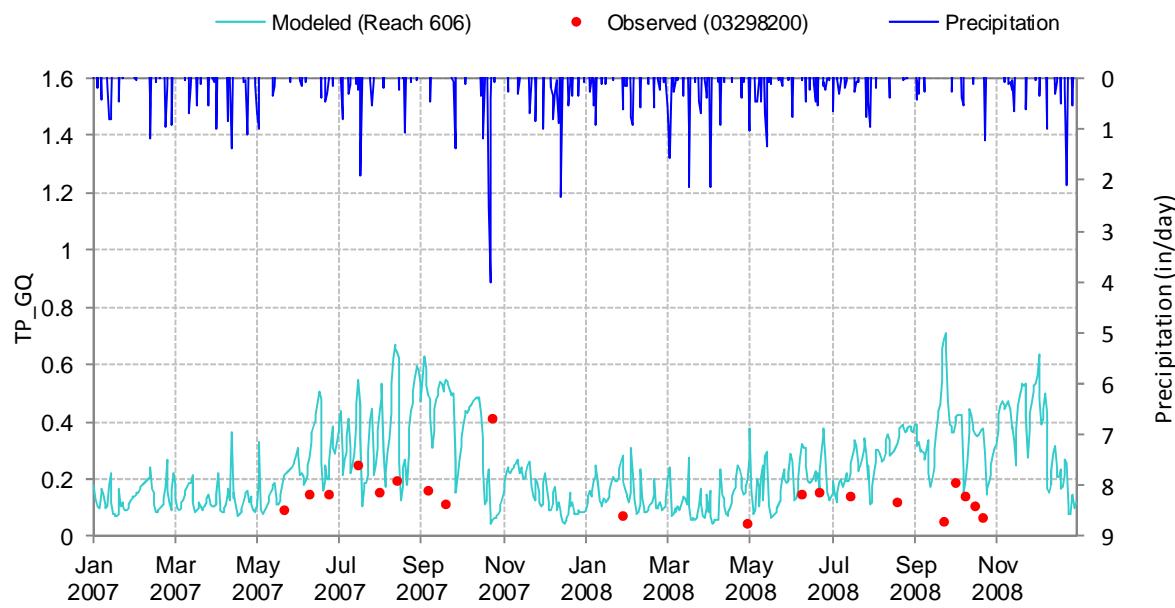


Figure B-226 Modeled vs. Observed TP\_GQ at 03298200

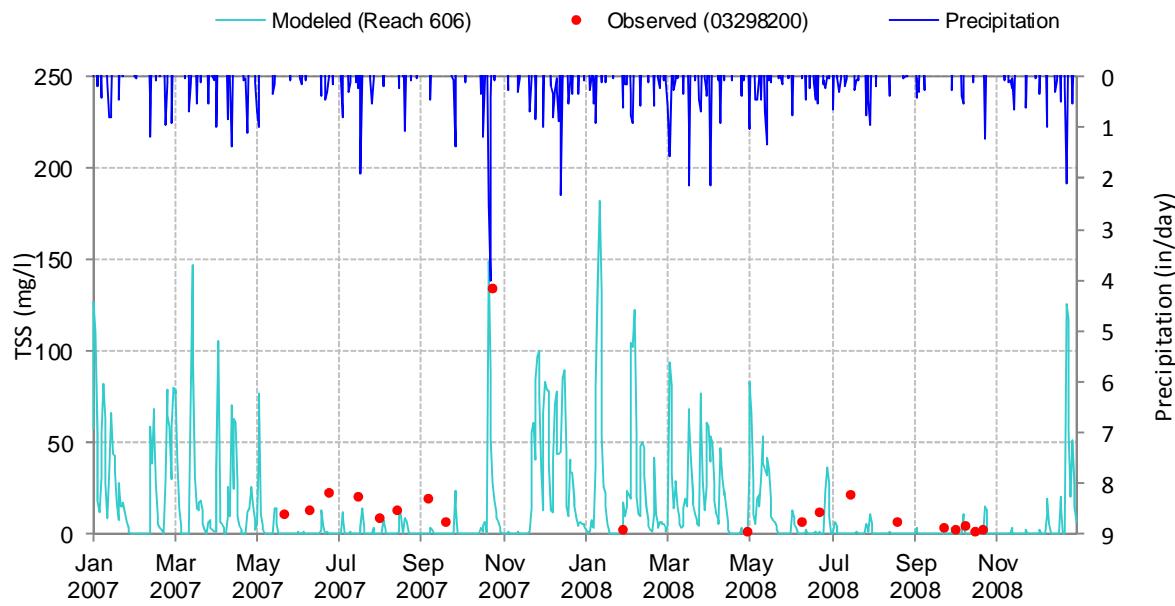


Figure B-227 Modeled vs. Observed TSS (mg/l) at 03298200

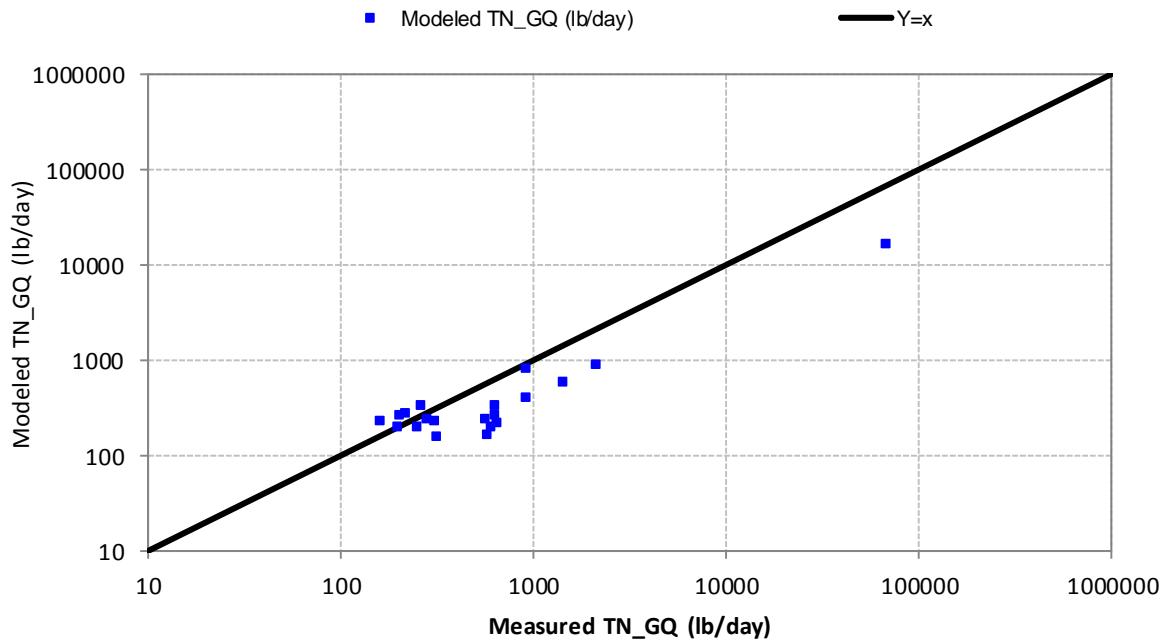


Figure B-228 Modeled vs. Observed Load TN\_GQ at 03298200

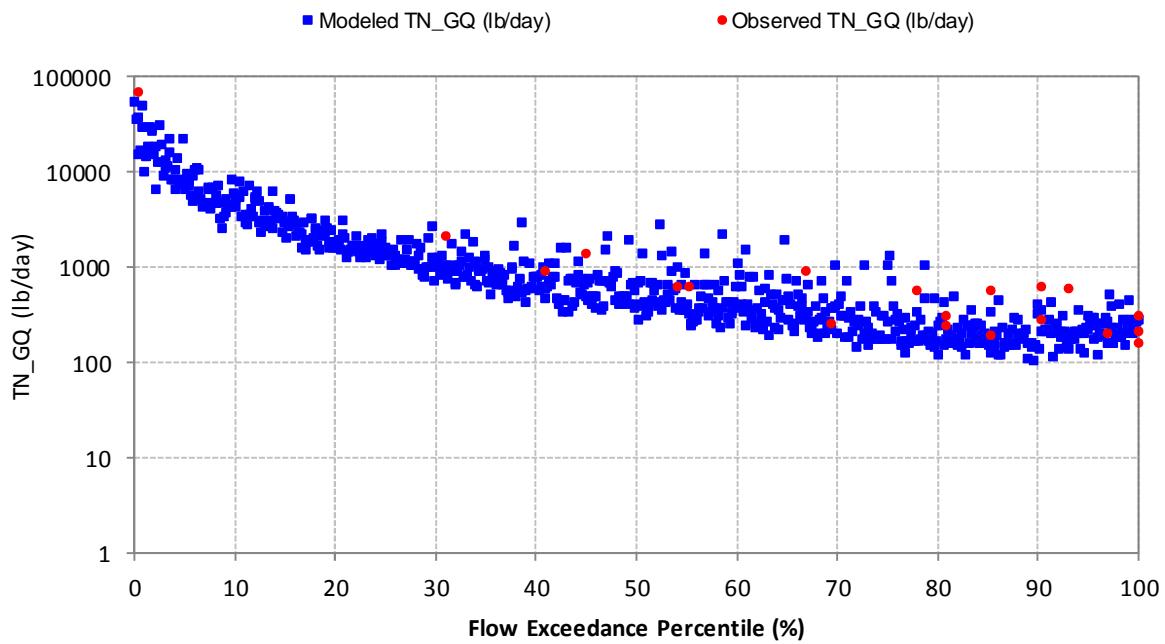


Figure B-229 Modeled vs. Observed Load TN\_GQ at 03298200

Table B-46 Modeled vs. Observed Load TN\_GQ at 03298200

Year	Simulated	Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	642,160	1,610,815	-60.13	1,396,224	-54.01
2008	849,716	1,846,219	-53.98	1,746,585	-51.35

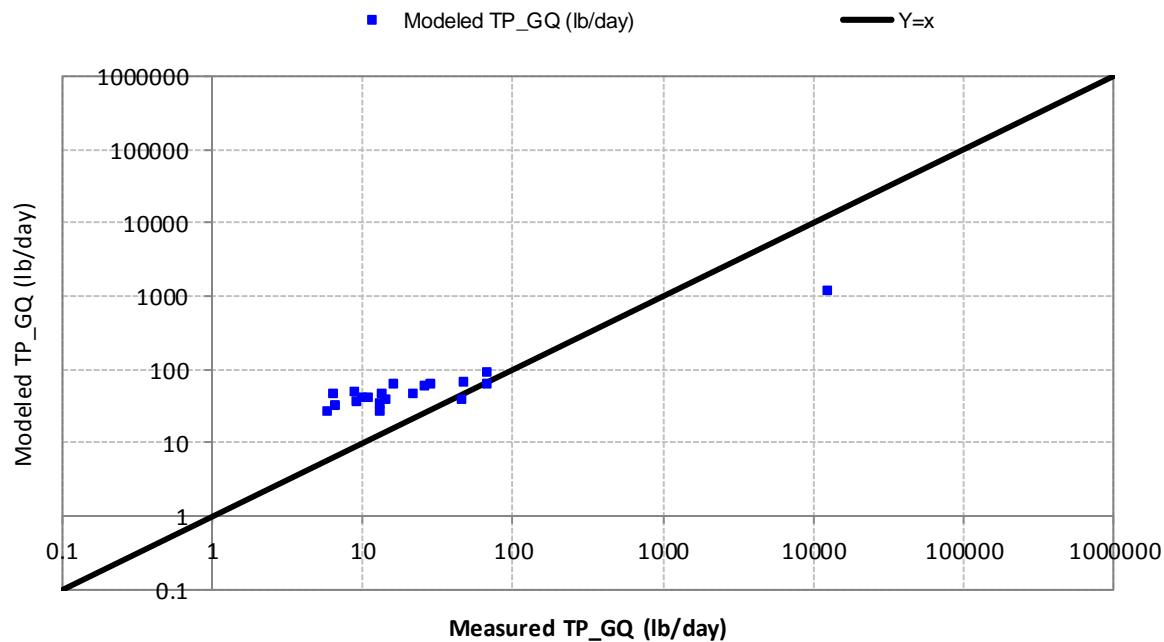


Figure B-230 Modeled vs. Observed Load TP\_GQ at 03298200

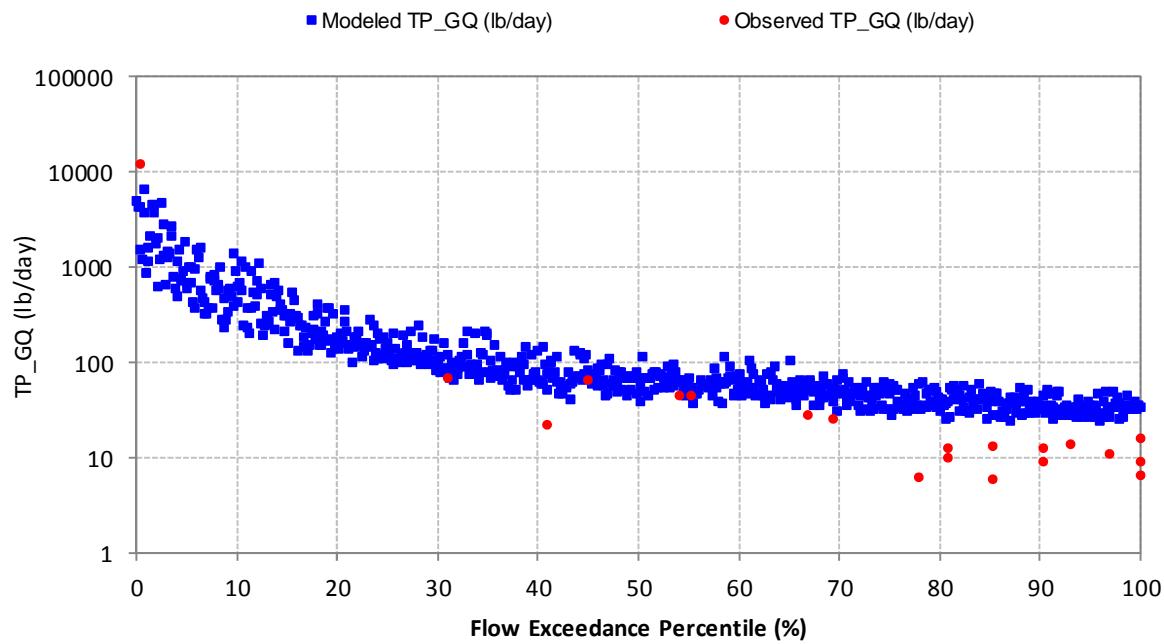


Figure B-231 Modeled vs. Observed Load TP\_GQ at 03298200

Table B-47 Modeled vs. Observed Load TP\_GQ at 03298200

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	71,056	125,796	-43.52	109,496	-35.11
2008	99,182	72,462	36.87	57,689	71.93

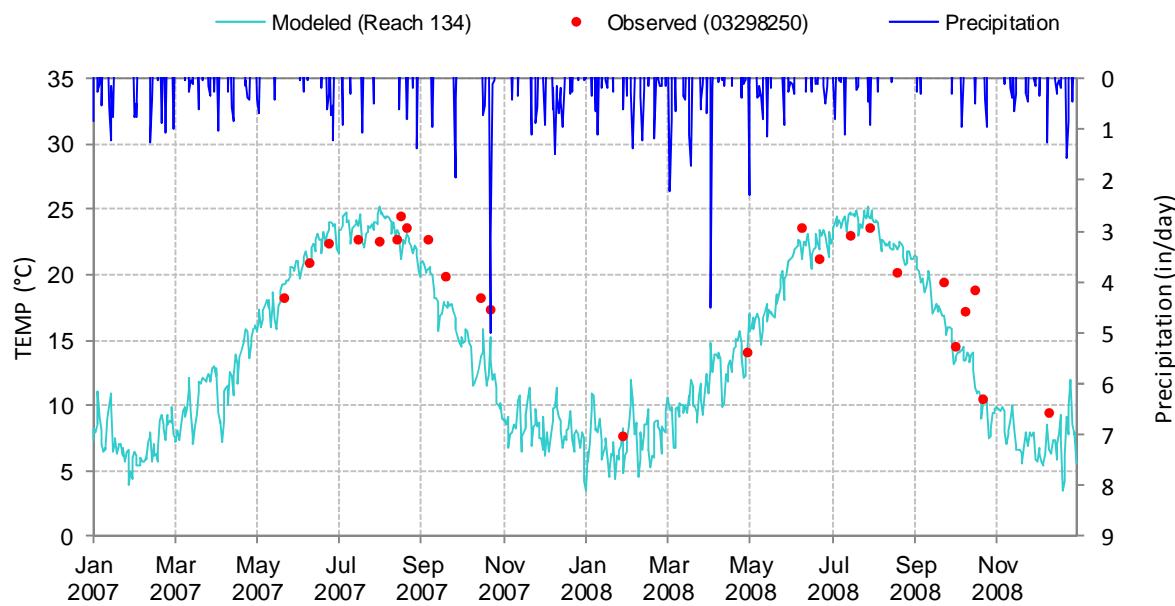


Figure B-232 Modeled vs. Observed TEMP (°C) at 03298250

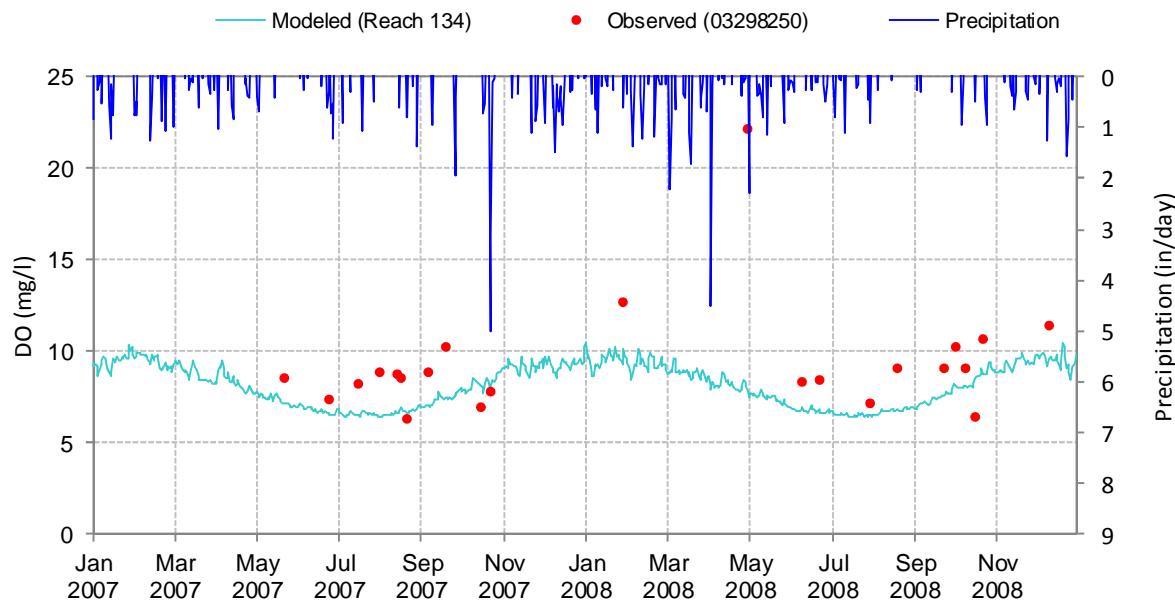


Figure B-233 Modeled vs. Observed DO (mg/l) at 03298250

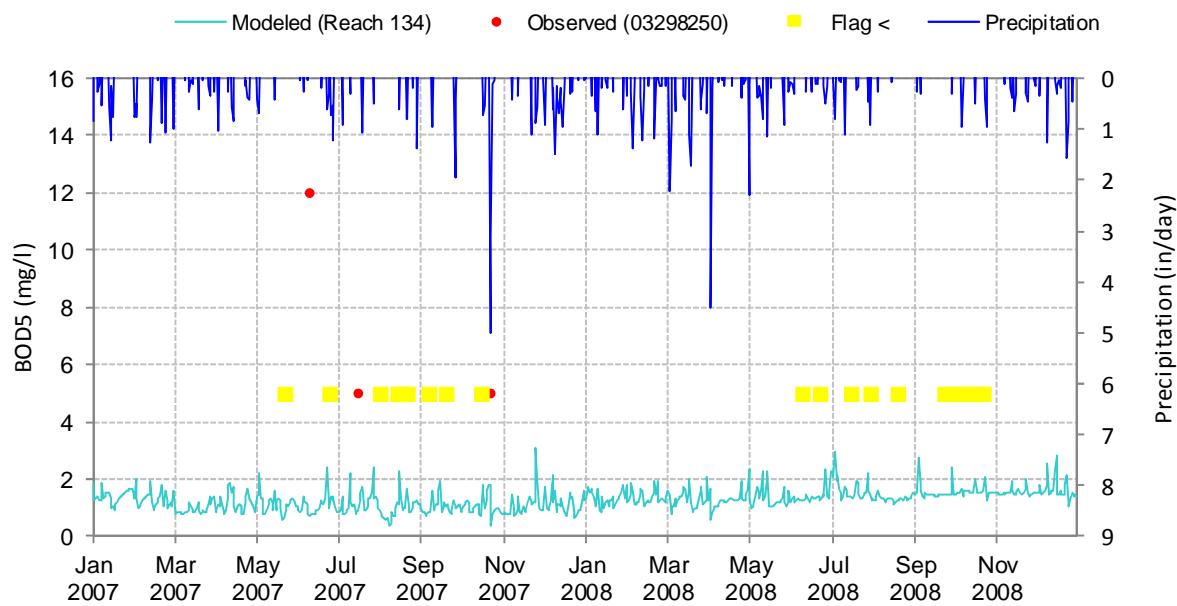


Figure B-234 Modeled vs. Observed BOD5 (mg/l) at 03298250

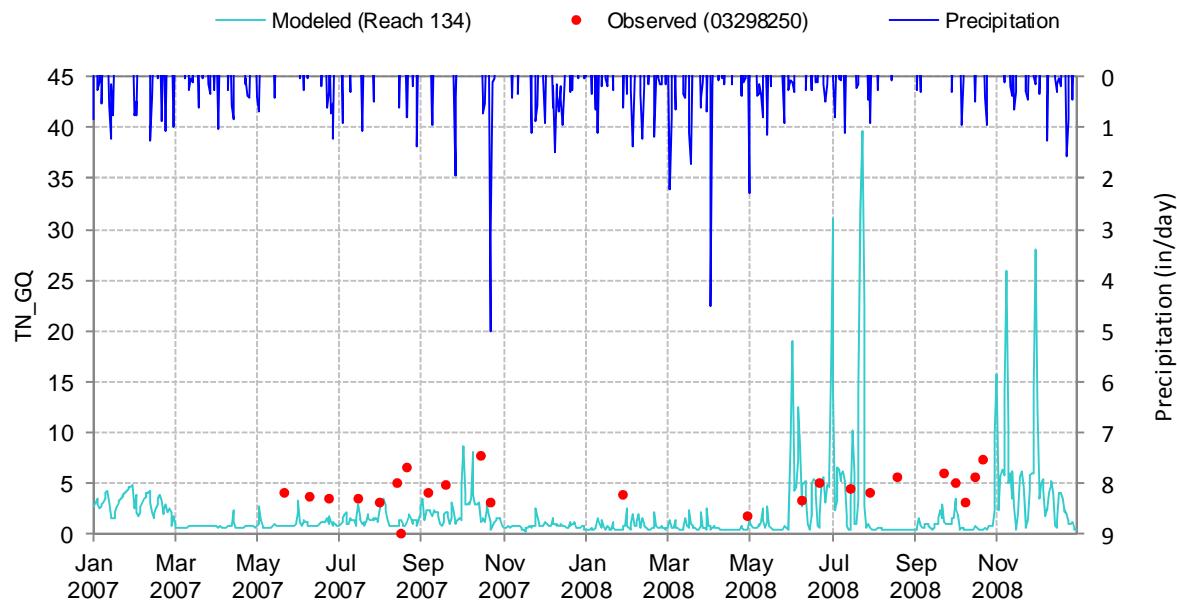


Figure B-235 Modeled vs. Observed TN\_GQ at 03298250

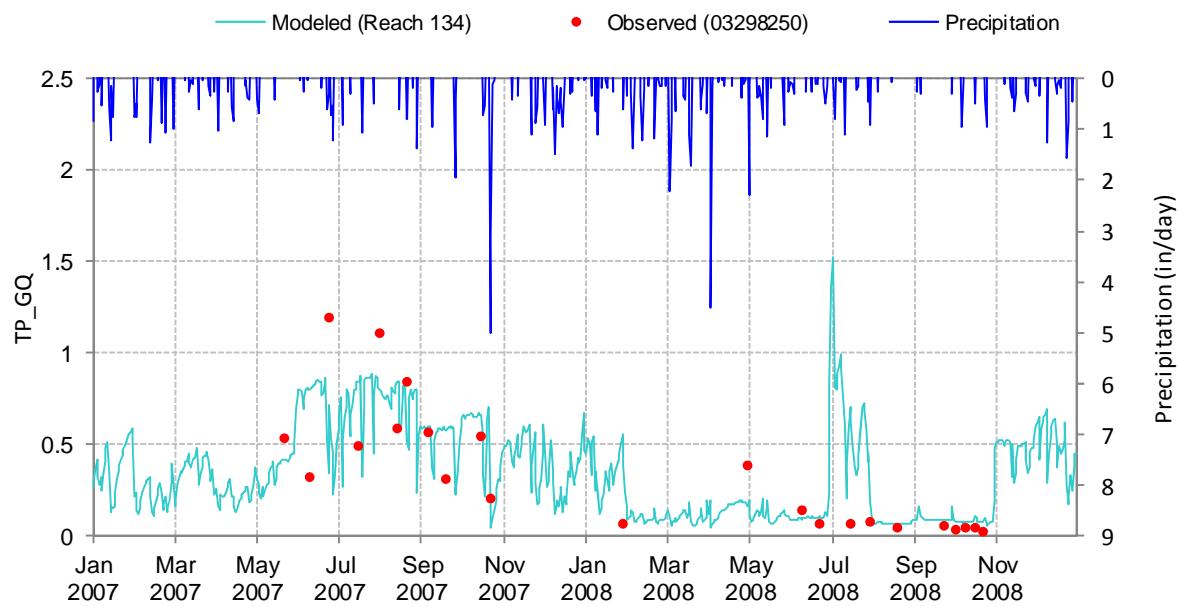


Figure B-236 Modeled vs. Observed TP\_GQ at 03298250

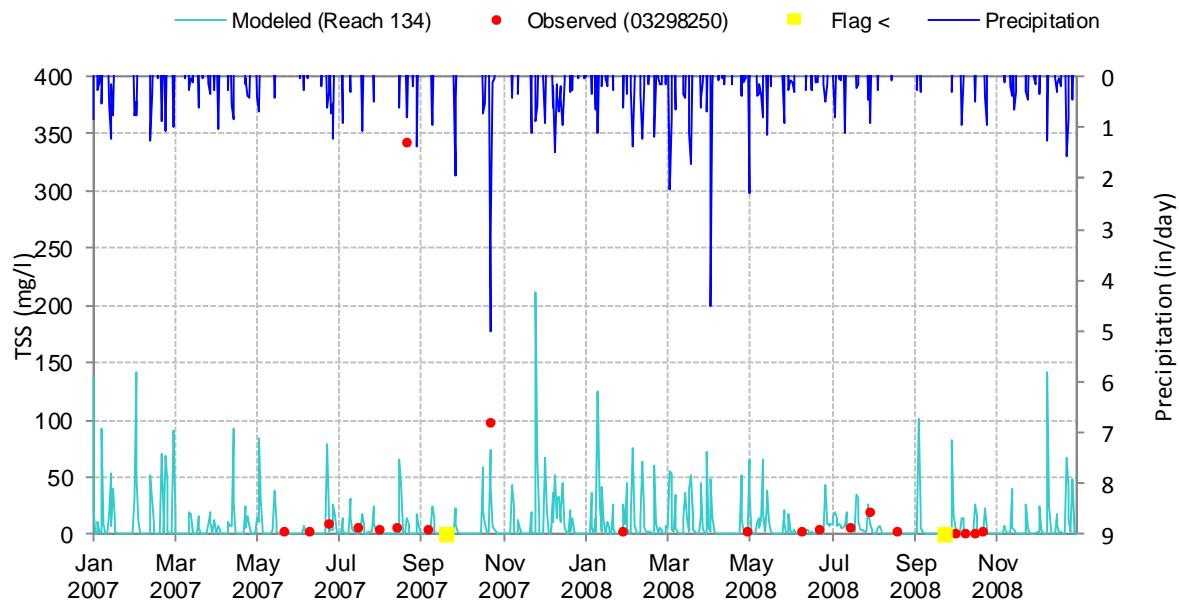


Figure B-237 Modeled vs. Observed TSS (mg/l) at 03298250

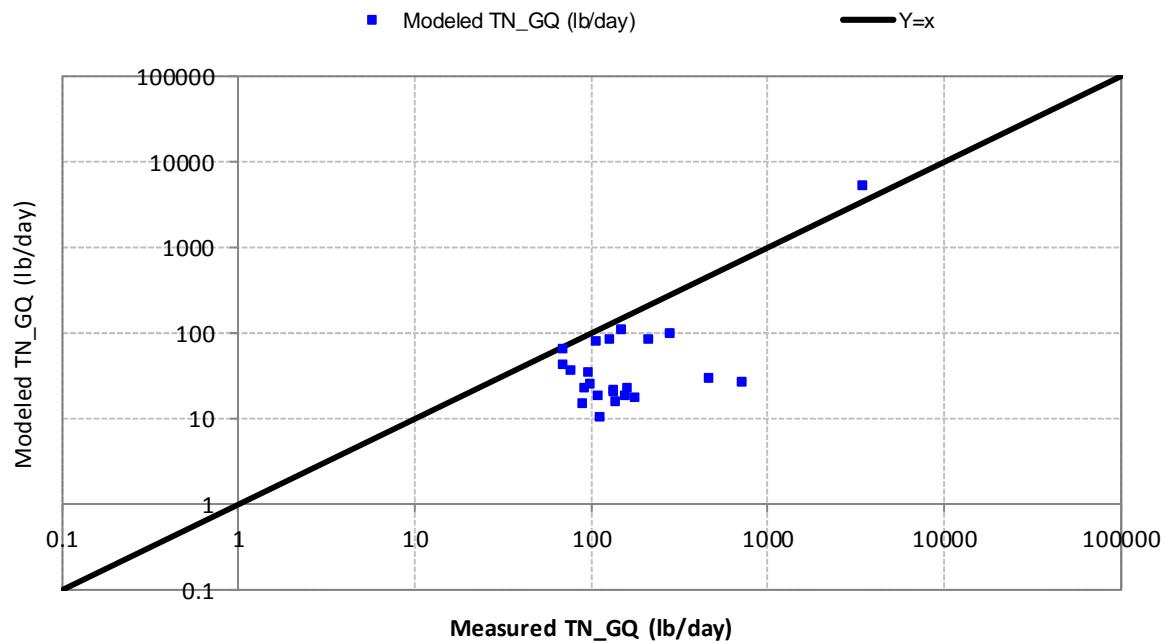


Figure B-238 Modeled vs. Observed Load TN\_GQ at 03298250

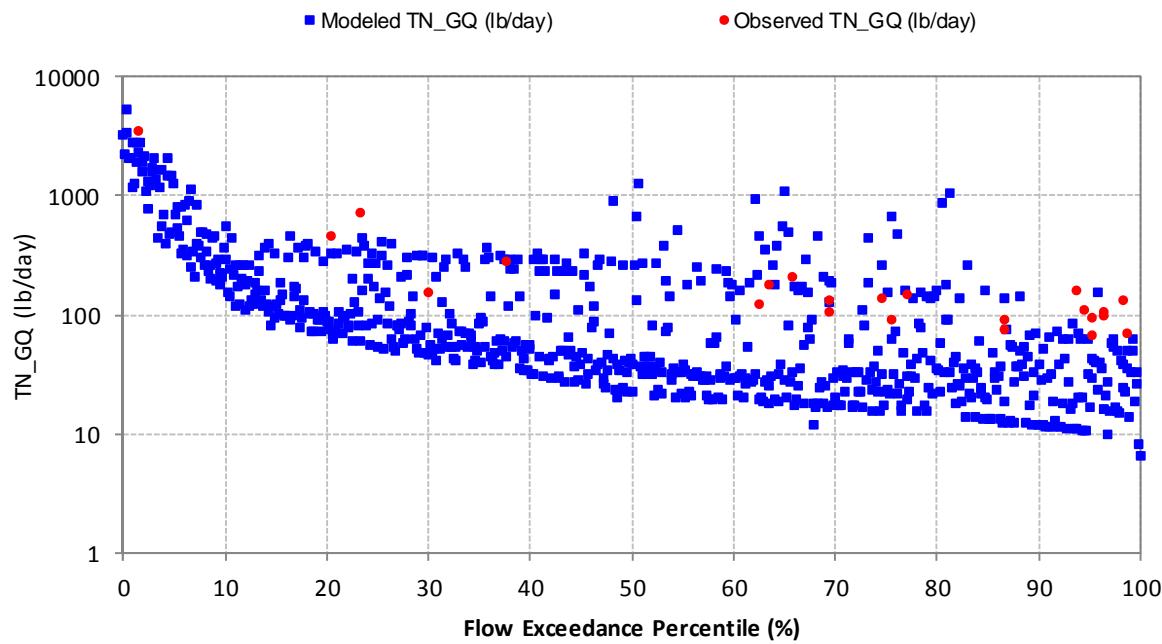


Figure B-239 Modeled vs. Observed Load TN\_GQ at 03298250

Table B-48 Modeled vs. Observed Load TN\_GQ at 03298250

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	70,097	133,412	-47.46	135,242	-48.17	
2008	79,824	198,861	-59.86	173,340	-53.95	

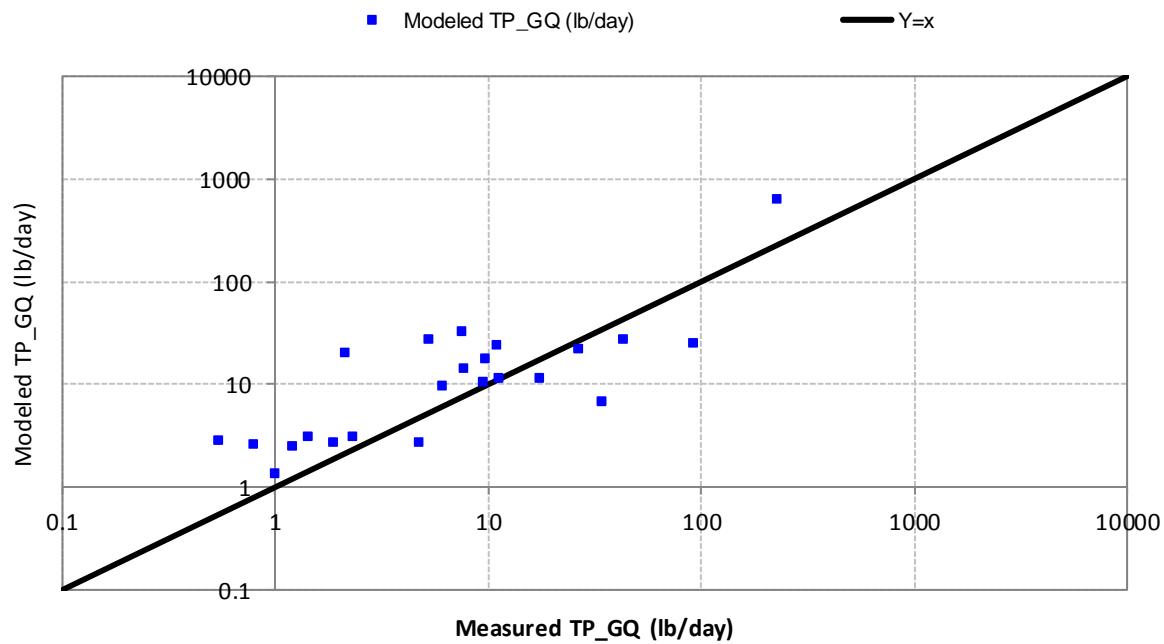


Figure B-240 Modeled vs. Observed Load TP\_GQ at 03298250

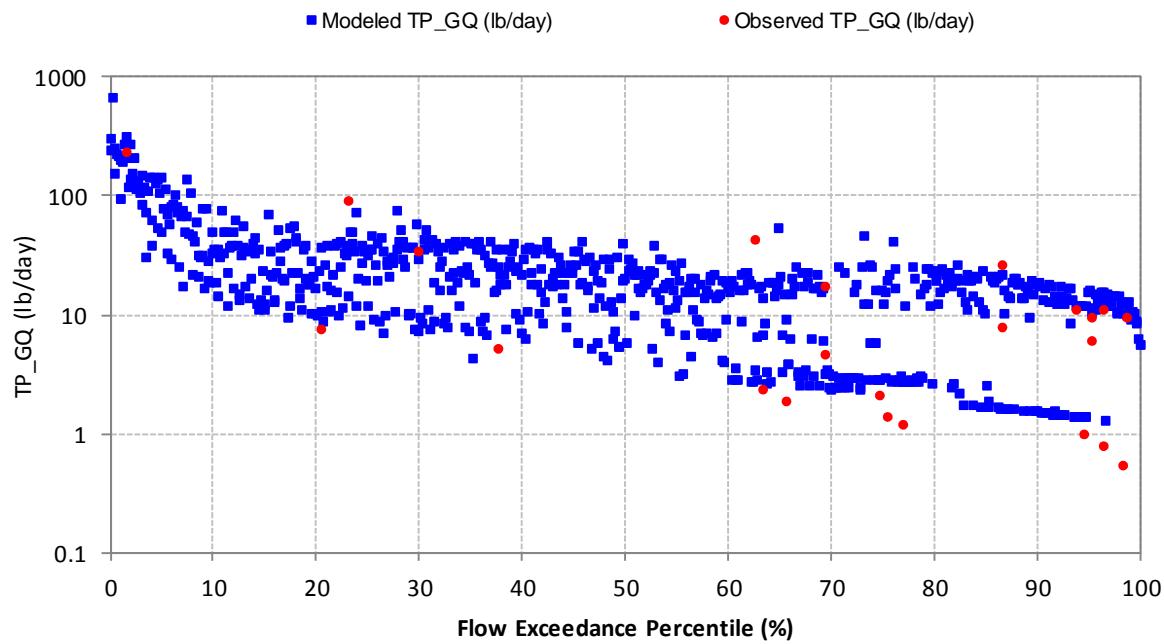


Figure B-241 Modeled vs. Observed Load TP\_GQ at 03298250

Table B-49 Modeled vs. Observed Load TP\_GQ at 03298250

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	11,680	15,206	-23.19	14,483	-19.35
2008	8,420	6,108	37.85	10,588	-20.47

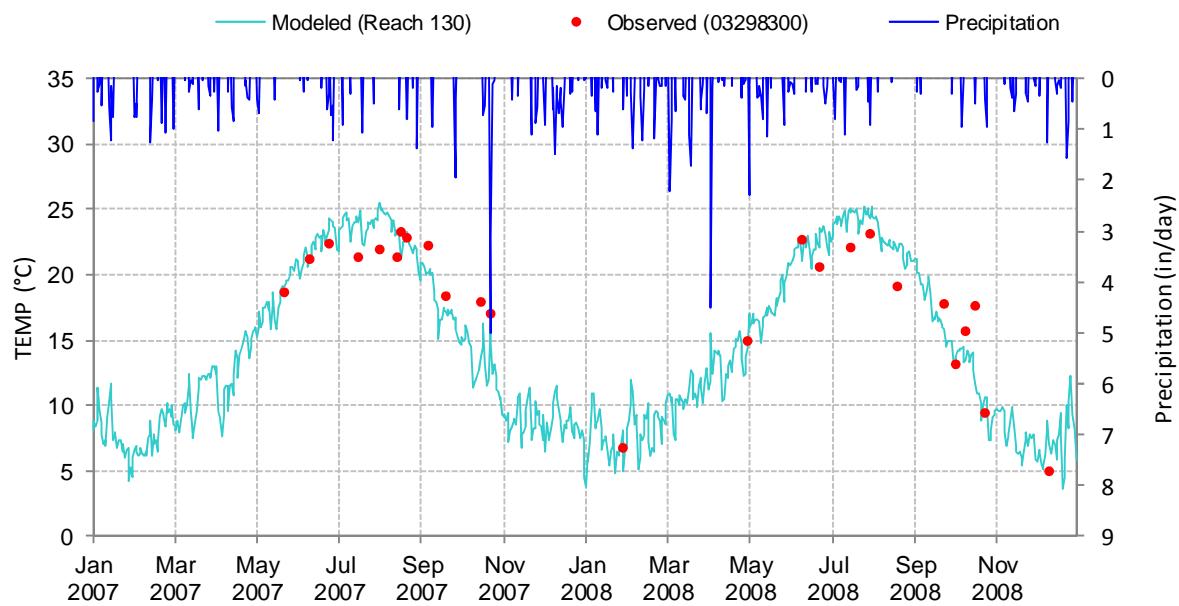


Figure B-242 Modeled vs. Observed TEMP (°C) at 03298300

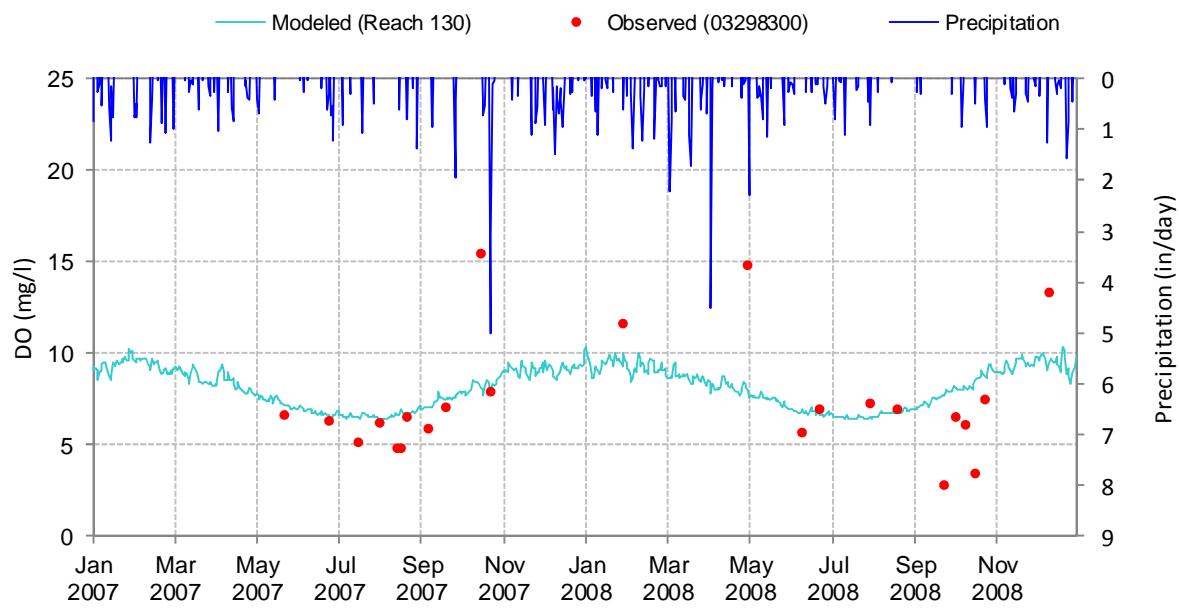


Figure B-243 Modeled vs. Observed DO (mg/l) at 03298300

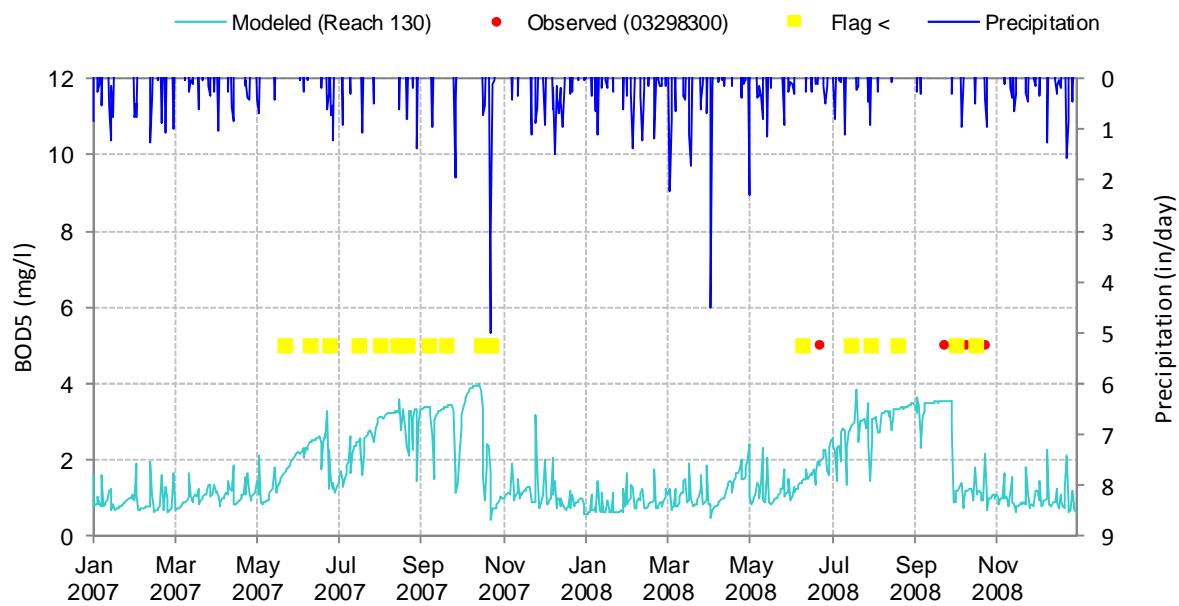


Figure B-244 Modeled vs. Observed BOD5 (mg/l) at 03298300

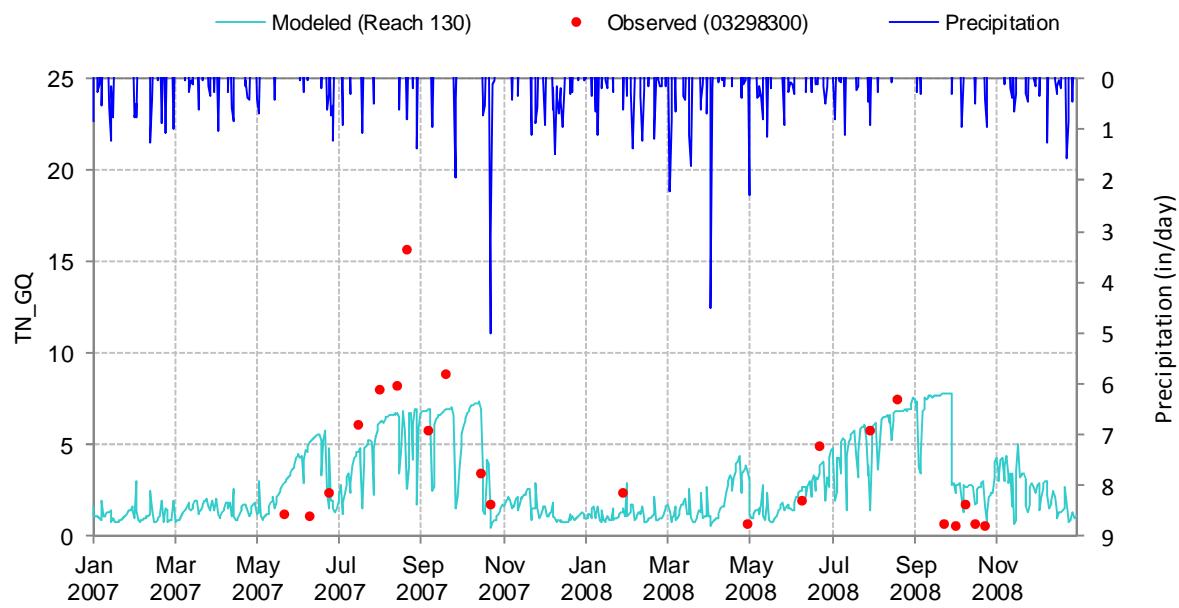


Figure B-245 Modeled vs. Observed TN\_GQ at 03298300

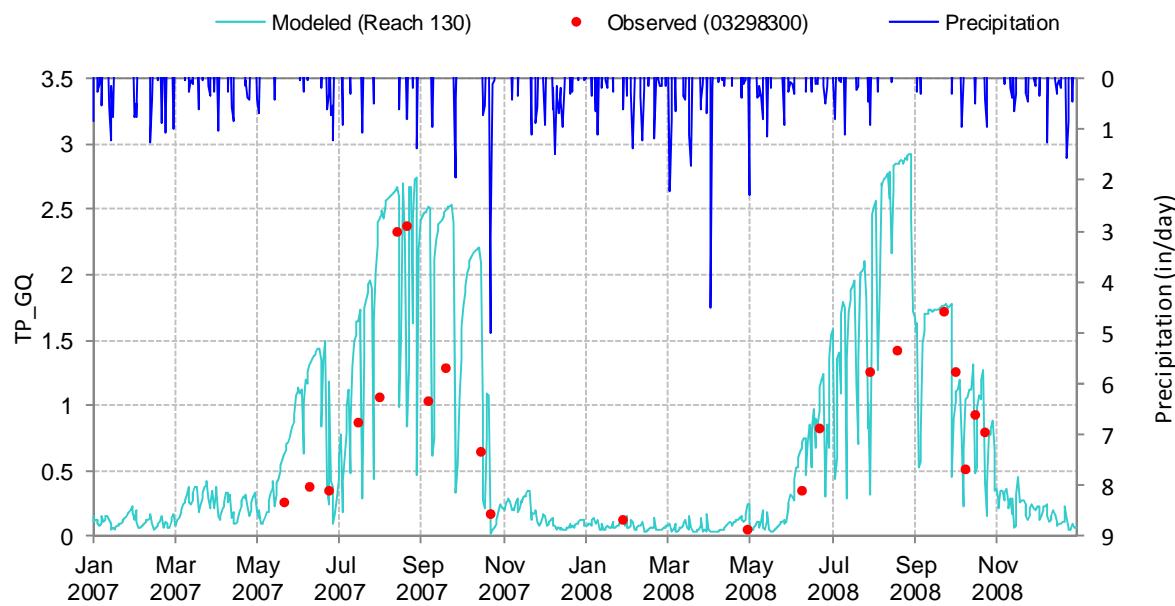


Figure B-246 Modeled vs. Observed TP\_GQ at 03298300

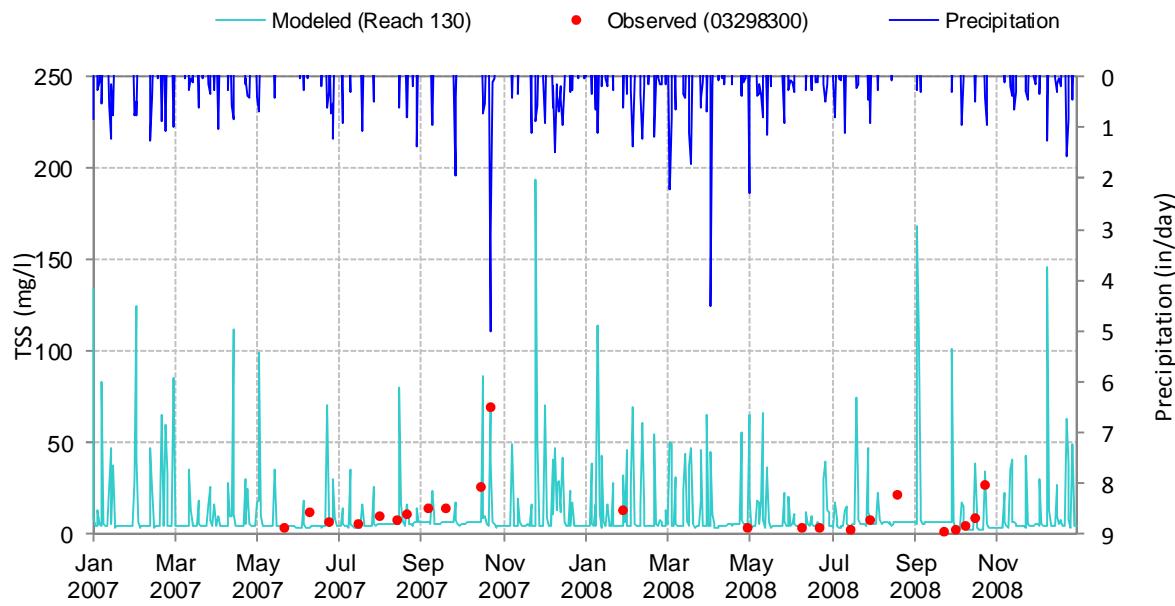


Figure B-247 Modeled vs. Observed TSS (mg/l) at 03298300

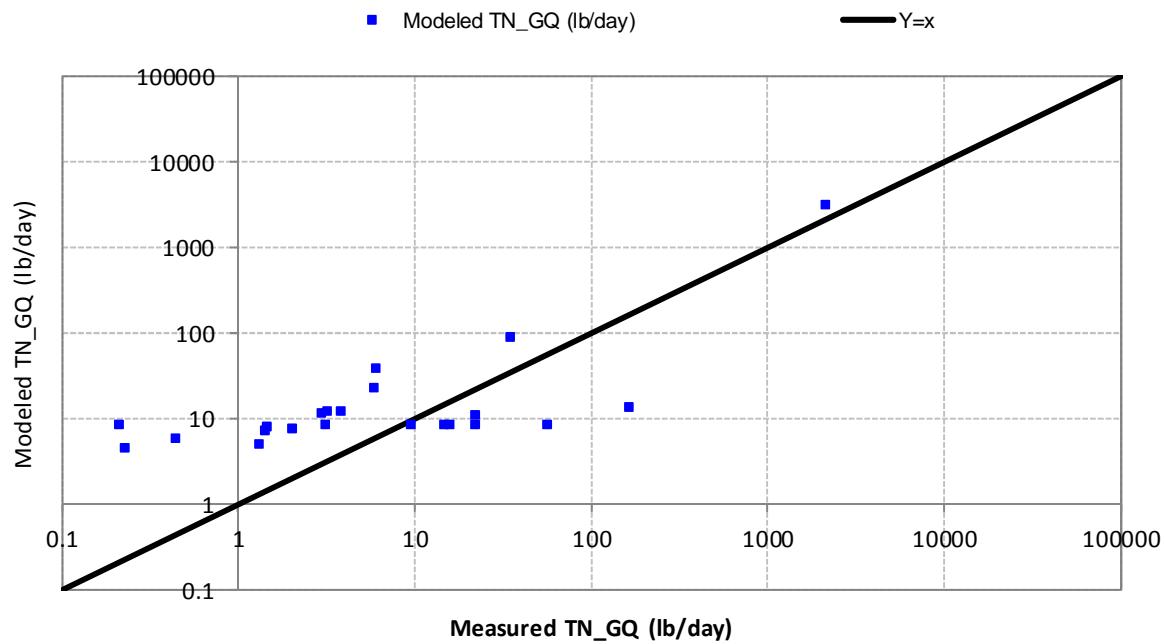


Figure B-248 Modeled vs. Observed Load TN\_GQ at 03298300

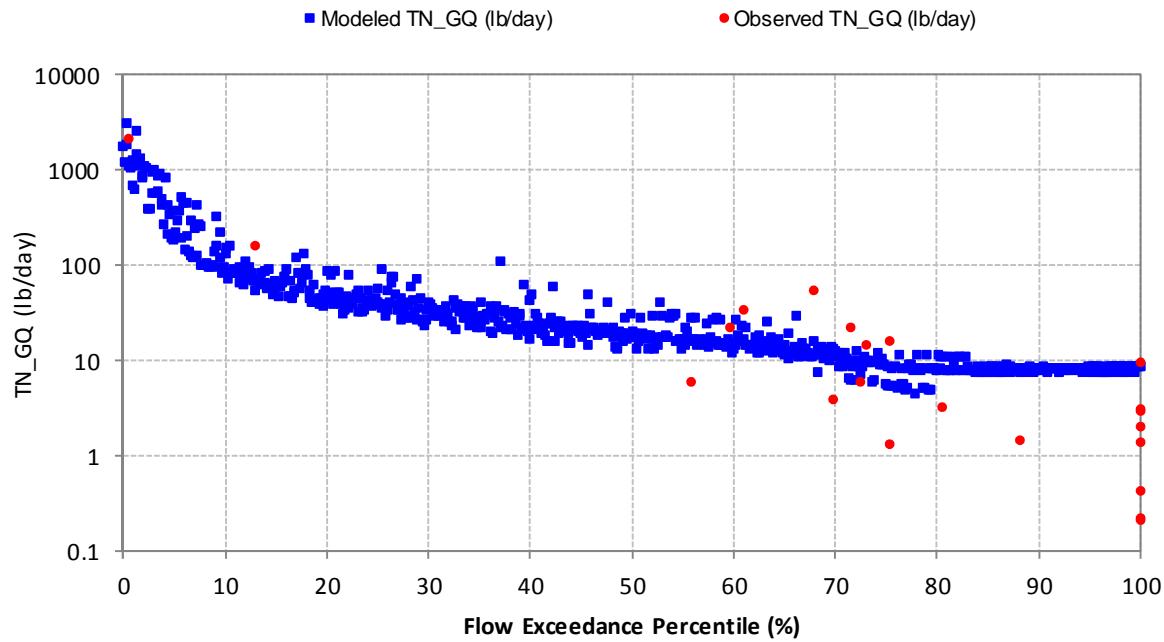


Figure B-249 Modeled vs. Observed Load TN\_GQ at 03298300

Table B-50 Modeled vs. Observed Load TN\_GQ at 03298300

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	26,585	28,722		-7.44	30,365	-12.45
2008	31,109	52,922		-41.22	42,079	-26.07

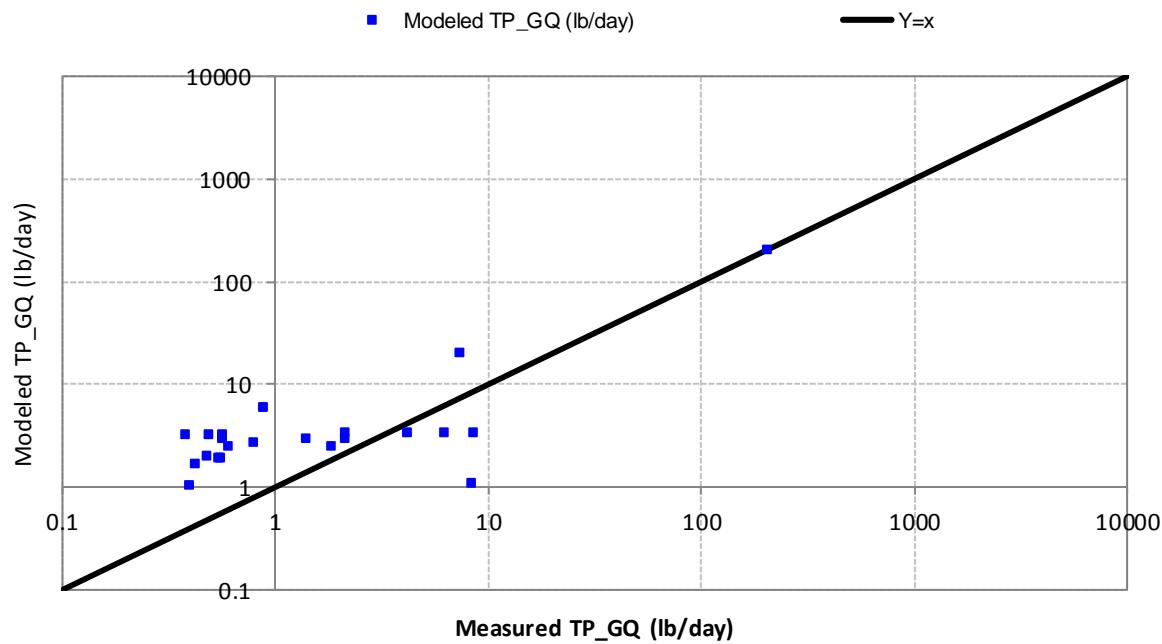


Figure B-250 Modeled vs. Observed Load TP\_GQ at 03298300

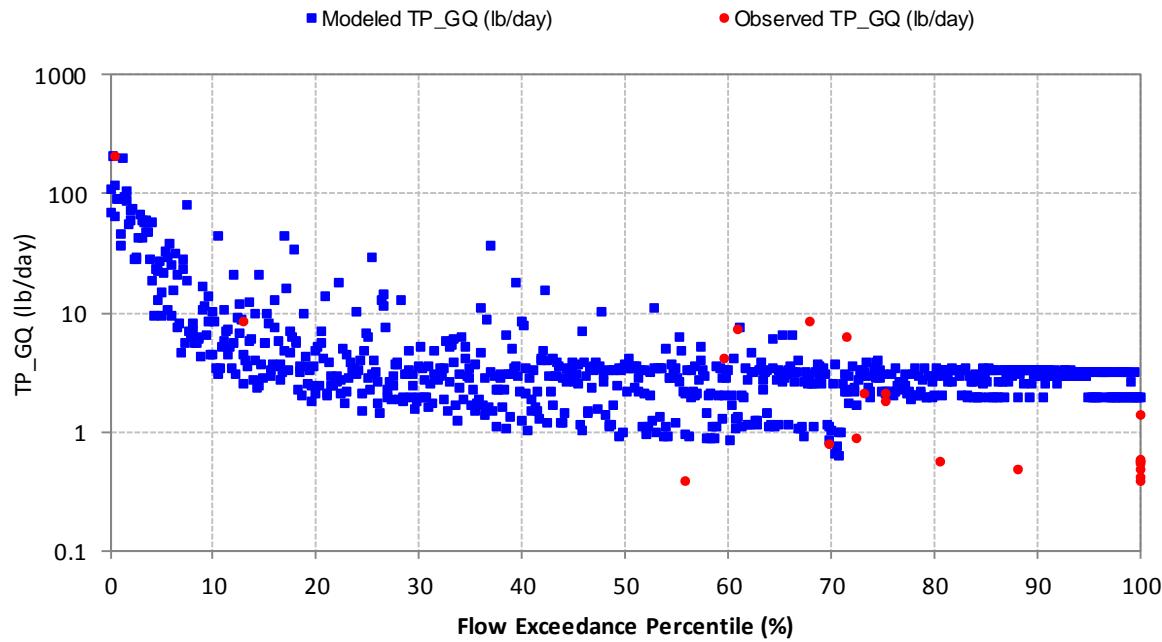


Figure B-251 Modeled vs. Observed Load TP\_GQ at 03298300

Table B-51 Modeled vs. Observed Load TP\_GQ at 03298300

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	2,719	4,209	-35.4	4,042	-32.73	
2008	2,493	3,883	-35.81	3,735	-33.26	

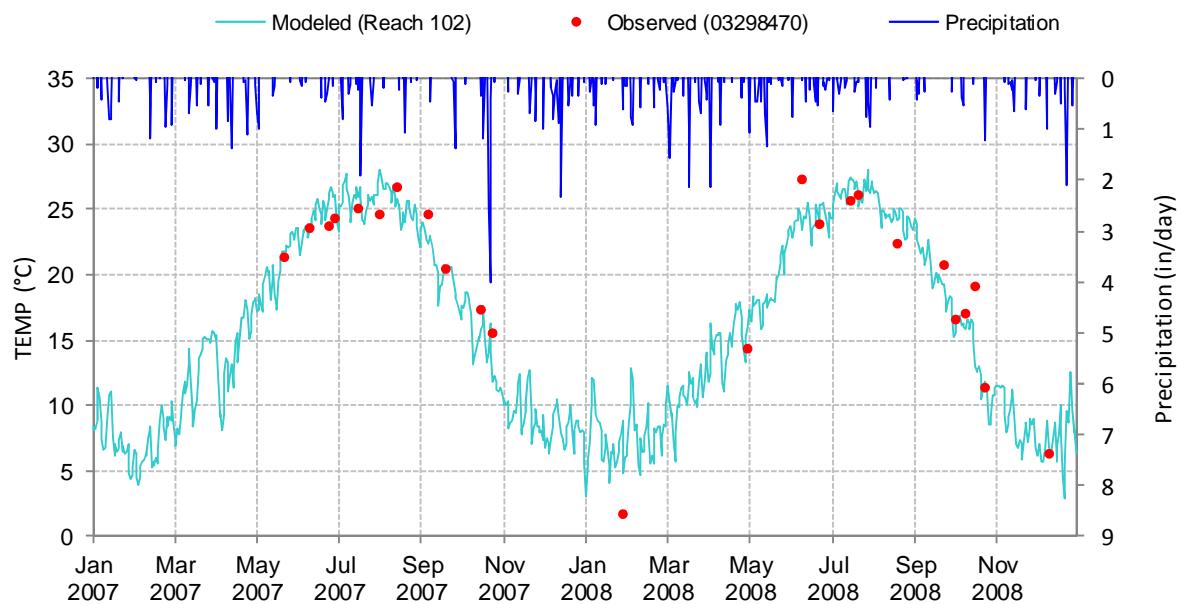


Figure B-252 Modeled vs. Observed TEMP (°C) at 03298470

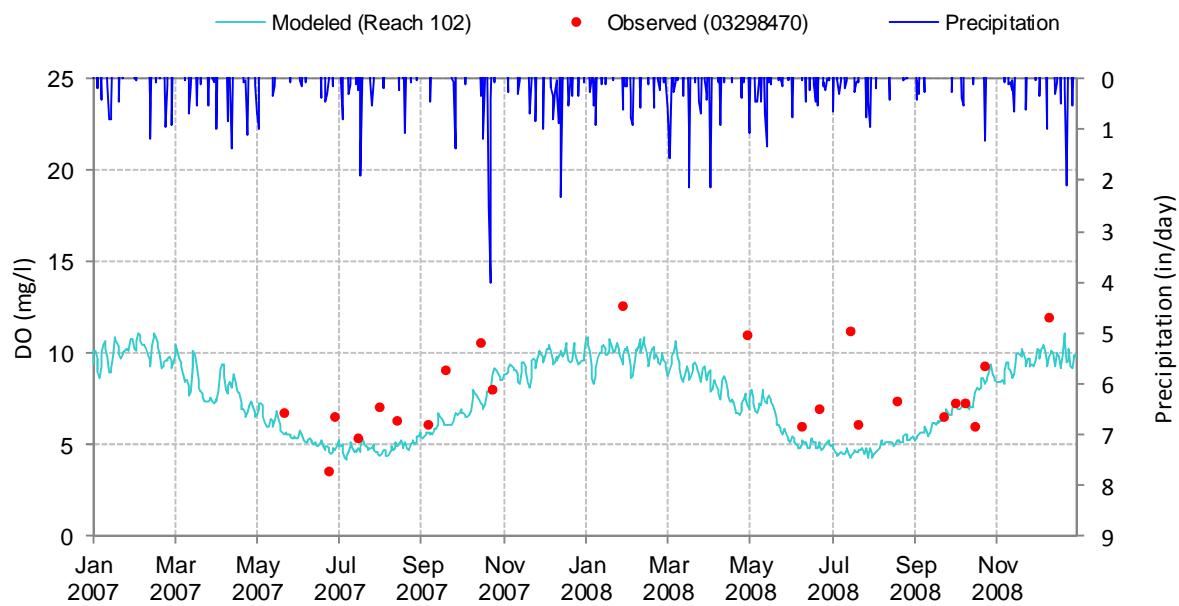


Figure B-253 Modeled vs. Observed DO (mg/l) at 03298470

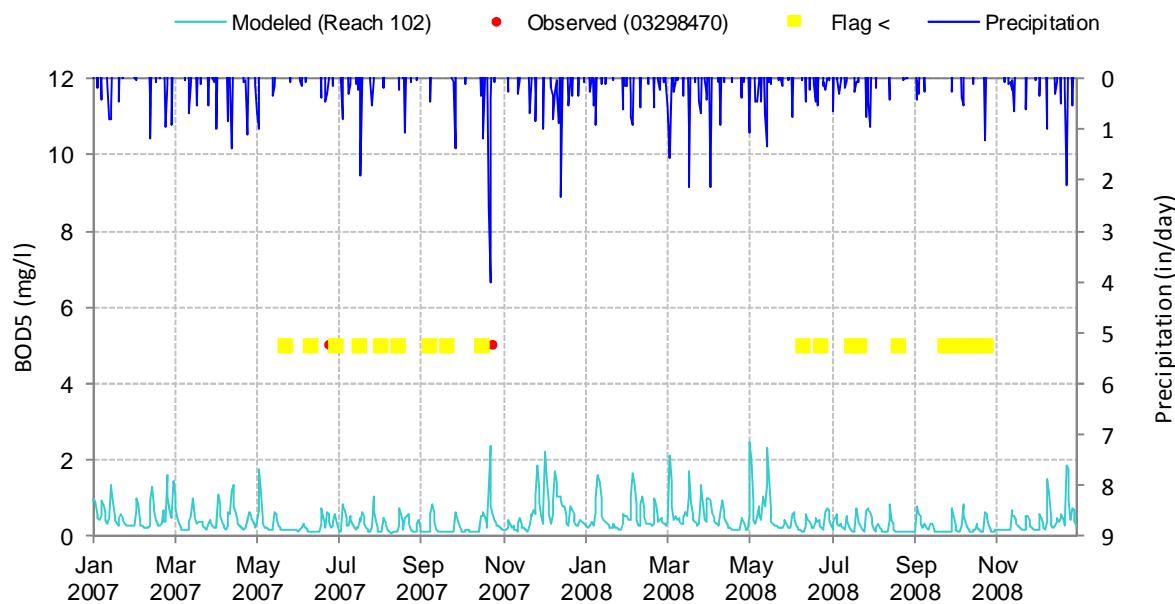


Figure B-254 Modeled vs. Observed BOD5 (mg/l) at 03298470

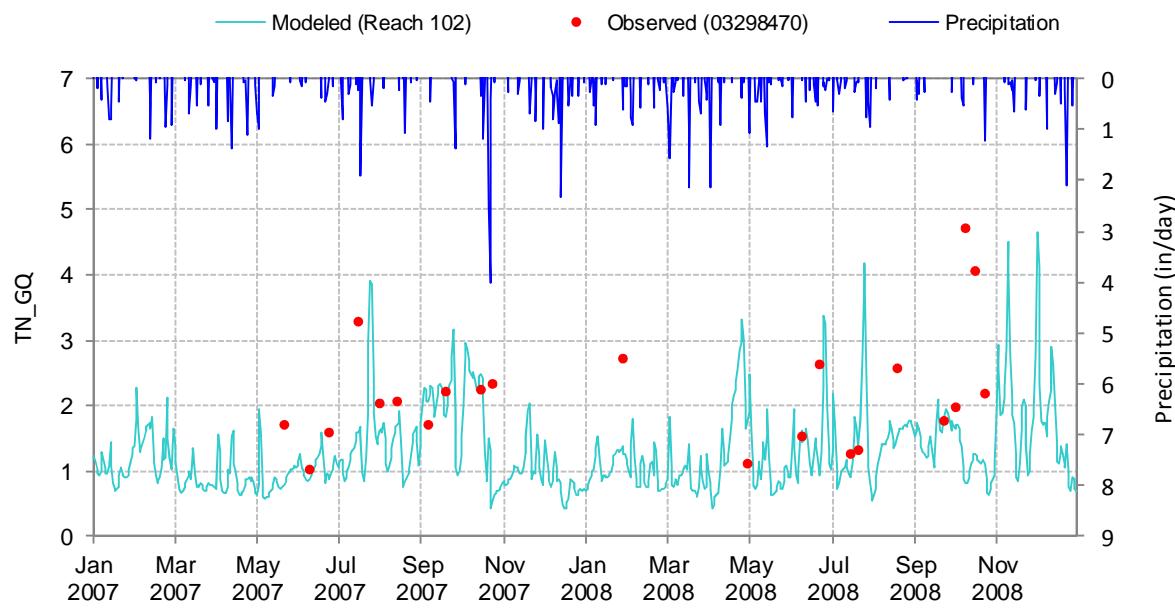


Figure B-255 Modeled vs. Observed TN\_GQ at 03298470

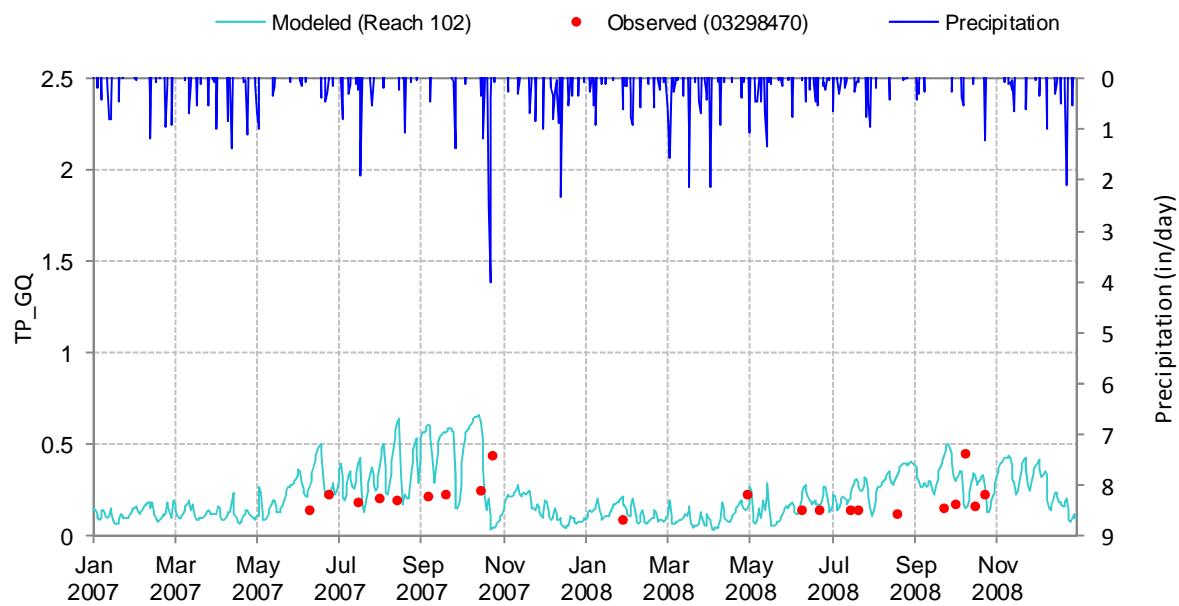


Figure B-256 Modeled vs. Observed TP\_GQ at 03298470

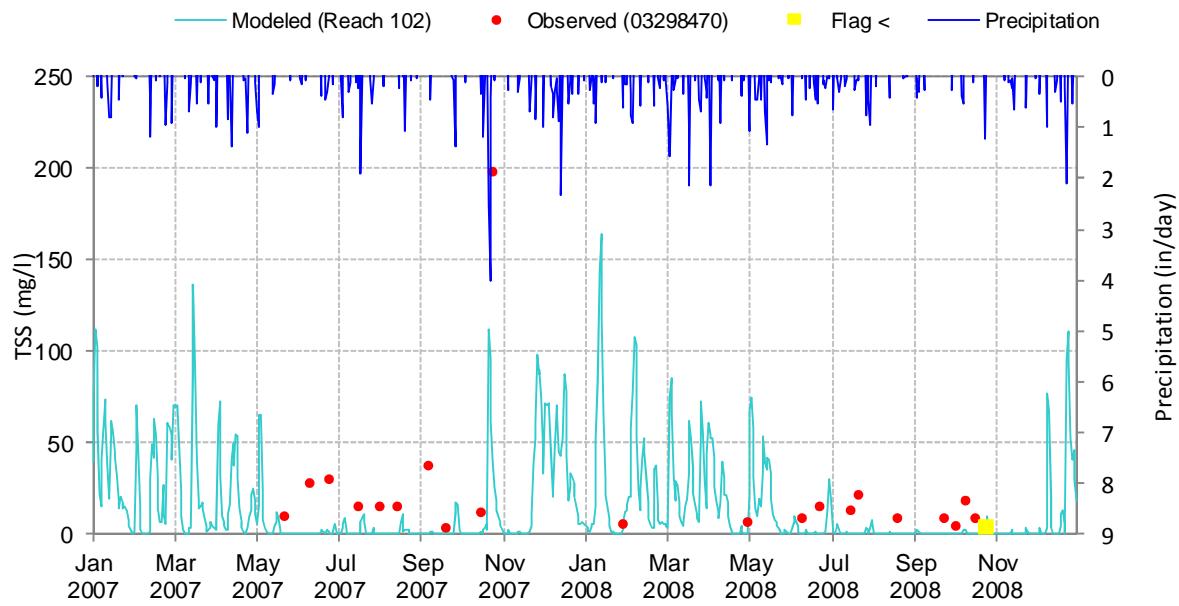


Figure B-257 Modeled vs. Observed TSS (mg/l) at 03298470

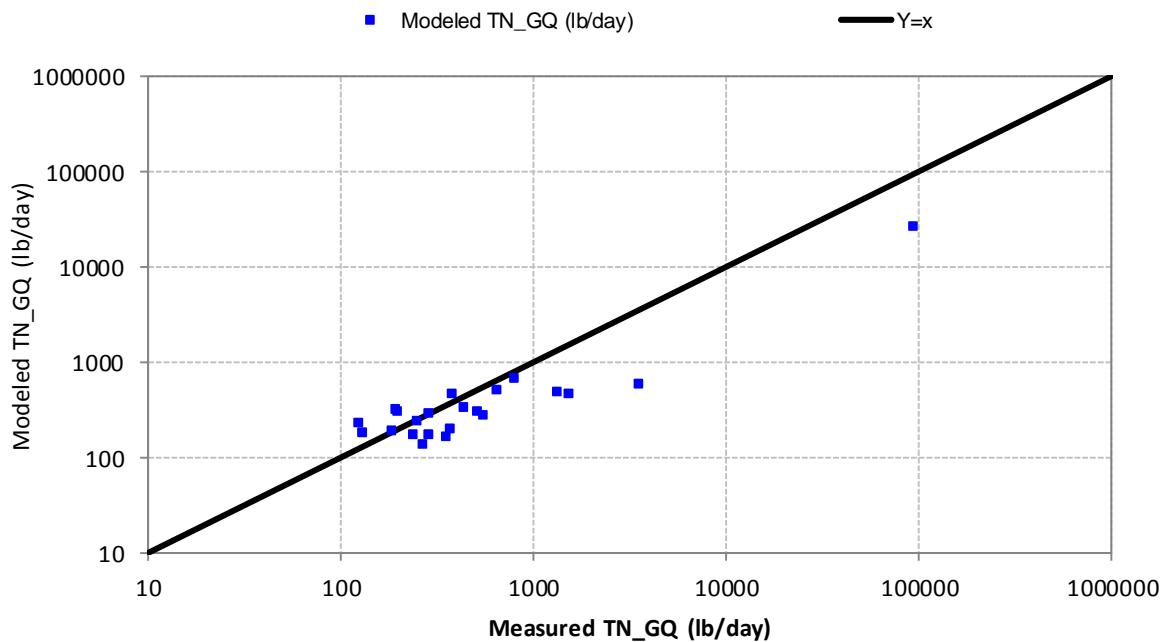


Figure B-258 Modeled vs. Observed Load TN\_GQ at 03298470

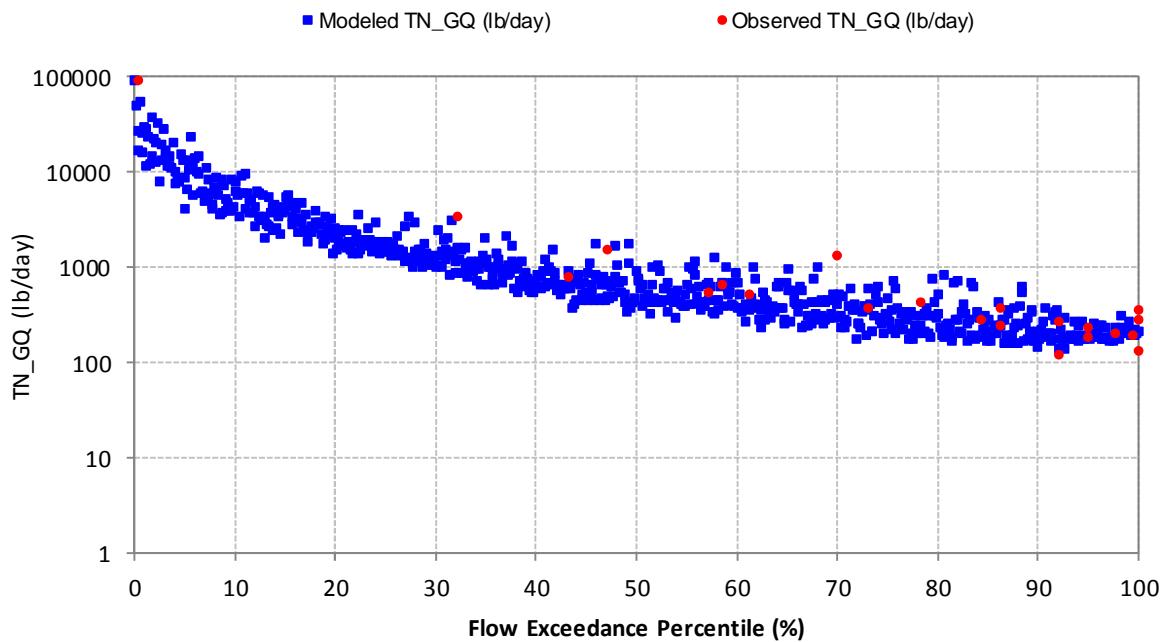


Figure B-259 Modeled vs. Observed Load TN\_GQ at 03298470

Table B-52 Modeled vs. Observed Load TN\_GQ at 03298470

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	754,190	1,583,668	-52.38	1,639,406	-54	
2008	961,461	2,462,522	-60.96	1,985,291	-51.57	

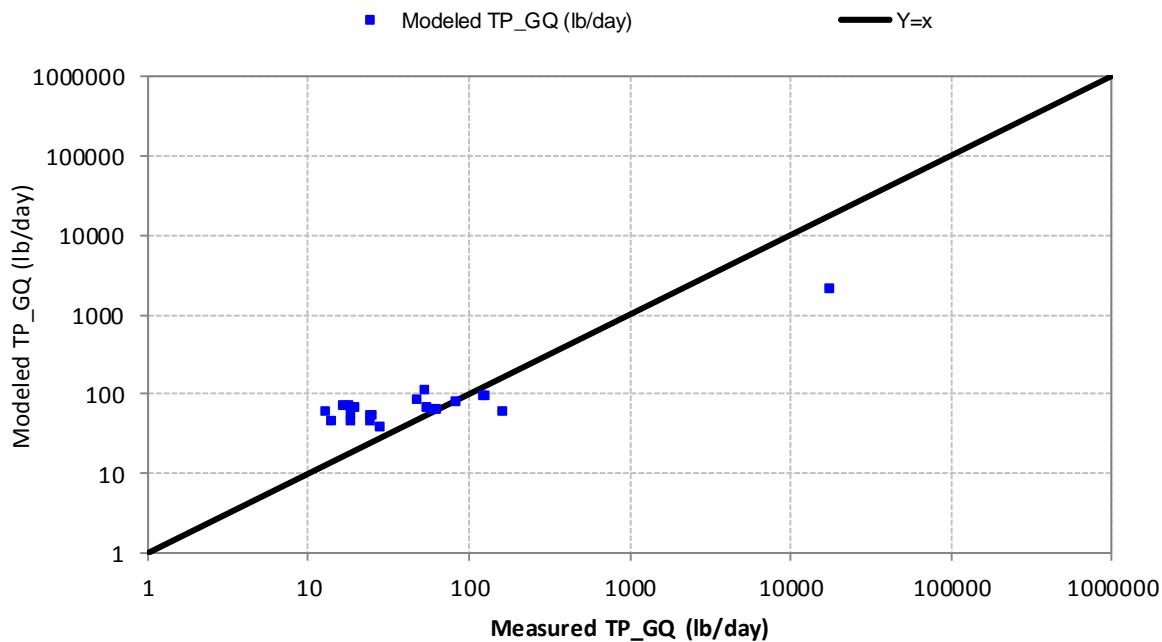


Figure B-260 Modeled vs. Observed Load TP\_GQ at 03298470

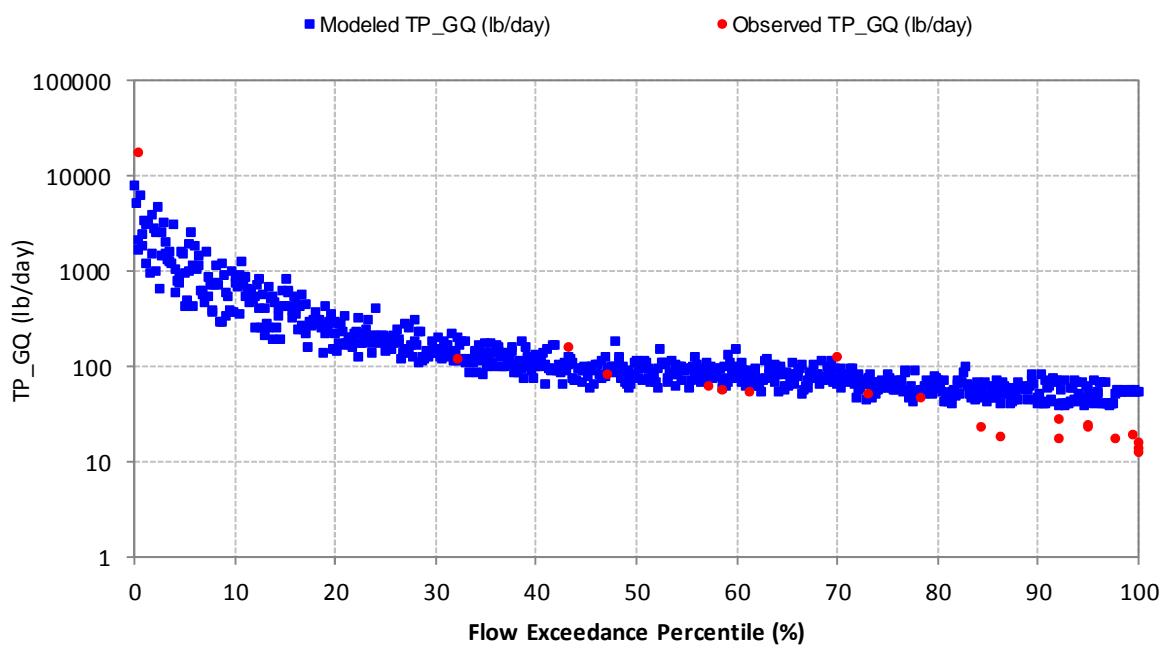


Figure B-261 Modeled vs. Observed Load TP\_GQ at 03298470

Table B-53 Modeled vs. Observed Load TP\_GQ at 03298470

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	90,729	207,454	-56.27	177,255	-48.81
2008	112,203	153,489	-26.9	180,161	-37.72

Table B-54 Summary Qualitative and Quantitative scores for the USGS Water Quality Calibration stations

Water Quality Station location: Main Stem- Floyds Fork						
USGS Station ID	Station name	Qualitative Score		Quantitative Score		
		TN	TP	TN	TP	
03297830	Floyds Fork at Highway 53	G	G	38	32	
03297845	Floyds Fork near Crestwood	G	F	51	78	
03297900	Floyds Fork near Peewee Valley	G	F	45	72	
03297930	Floyds Fork at Echo trail bridge	G	F	70	79	
03298000	Floyds Fork at Fisherville	G	G	51	48	
03298120	Floyds Fork at Seatonville Road	G	G	48	63	
03298200	Floyds Fork near Mt. Washington	G	VG	57	14	
03298470	Floyds Fork near Shepherdsville	G	G	58	44	
Water Quality Station location: Tributaries						
03297850	South Fork Curry's Fork at Moody Lane	G	G	64	64	
03297855	South Fork Curry's Fork at Highway 393	VG	G	2	33	
03297860	North Fork Curry's Fork at Stone Ridge road	G	G	45	70	
03297875	Ashers Run at Abbott lane near Crestwood	G	G	43	53	
03297880	Currys Fork near Crestwood	VG	G	19	39	
03297950	Long Run at Old stage coach road	VG	VG	3	20	
03297975	South Long Run at Hobbs Lane	VG	G	6	61	
03297980	Long Run near Fisherville	VG	G	20	55	
03298005	Pope lick at South poope lick road near Fisherville	VG	VG	6	19	
03298020	Cane Run at Thurman Road	VG	G	29	64	
03298100	Pope lick at pope lick road near Middletown	G	G	55	64	
03298110	Pope lick at Rehl road near Fisherville	VG	VG	19	13	
03298135	Chenoweth Run at Ruckriegal Parkway	G	G	41	39	
03298138	Chenoweth Run at Jeffersontown STP at Jeffersontown	G	G	67	53	
03298150	Chenoweth Run at Gelhaus Lane near Fern creek	G	VG	65	27	
03298160	Chenoweth Run at Seatonville road near Jeffersontown	G	G	44	44	
03298250	Cedar Creek at Thixton Road	G	VG	55	6	
03298300	Pennsylvania Run at Mt. Washington	VG	G	29	36	

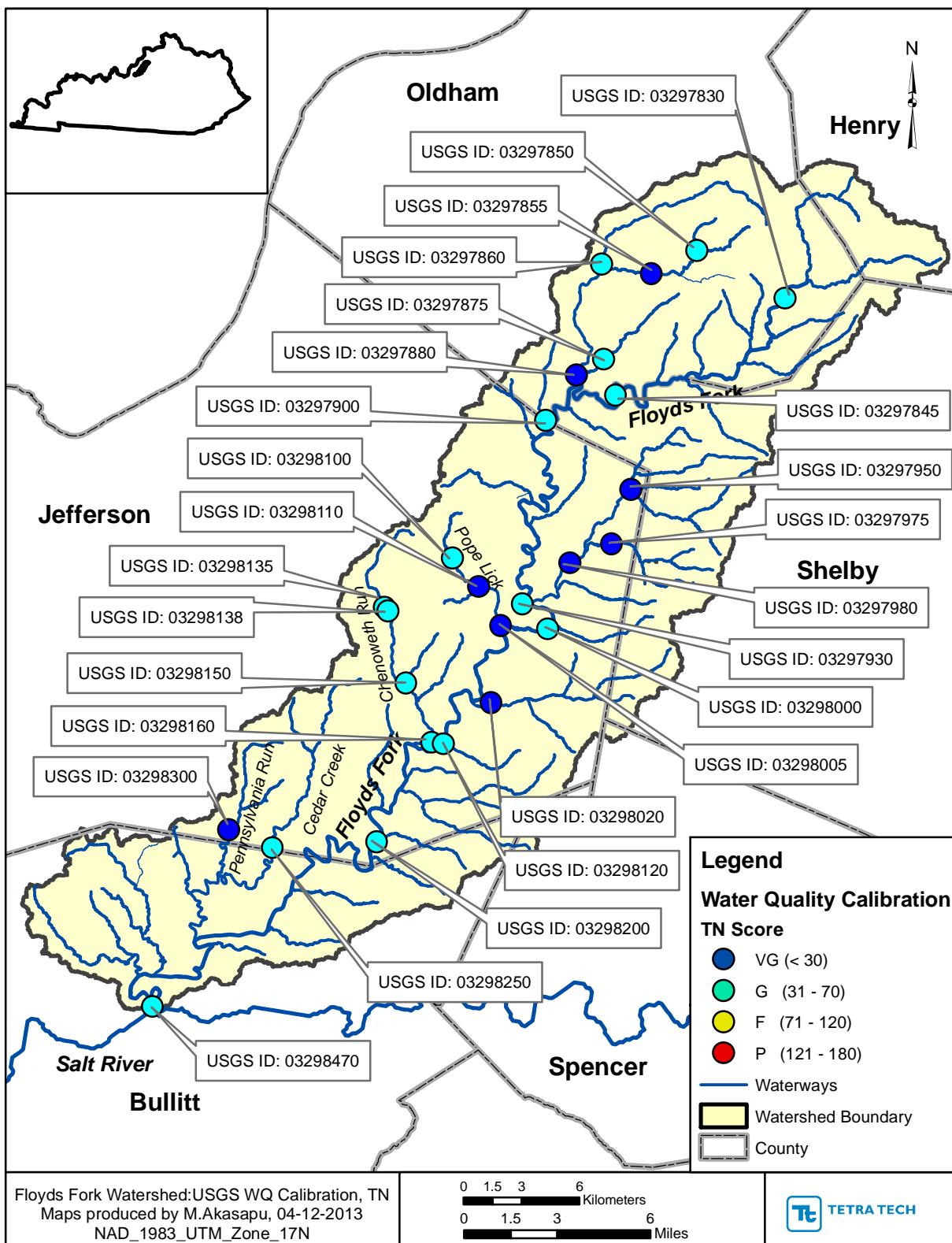


Figure B-262 USGS Water Quality for TN in the Floyds Fork Watershed

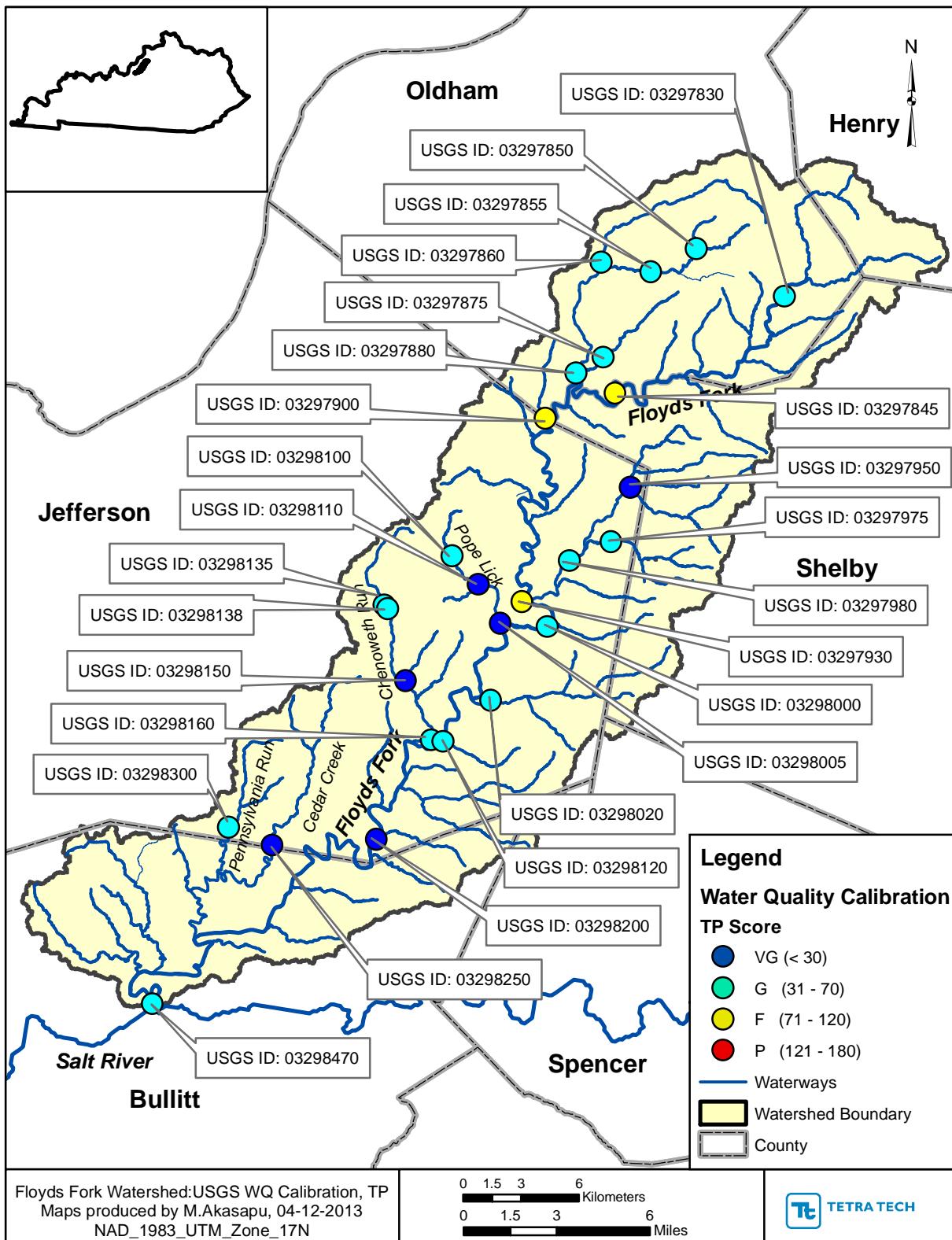


Figure B-263 USGS Water Quality for TP in the Floyds Fork Watershed

Table B-55 LSPC Watershed Water Quality Validation Stations

Station	Agency	Site Name	USGS Drainage Area (mi <sup>2</sup> )	USGS Drainage Area (acres)	LSPC Watershed	LSPC Drainage Area (acres)	Type
EFFFF001	MSD	Floyds Fork at Ash Avenue	80	51136	615	53084	TEMP., DO, BOD5, TN, TP, TSS
EFFFF002	MSD	Floyds Fork at Bardstown Road	213	136320	606	137052	TEMP., DO, BOD5, TN, TP, TSS
EFFFF003	MSD	Floyds Fork at Old Taylorsville Road	138	88320	180	88803	TEMP., DO, BOD5, TN, TP, TSS
EFFCR001	MSD	Chenoweth Run # 1 at Gelhaus Lane	12	7424	609	8176	TEMP., DO, BOD5, TN, TP, TSS
EFFCR002	MSD	Chenoweth Run # 1 at Ruckriegal Parkway	5	3501	167	3449	TEMP., DO, BOD5, TN, TP, TSS

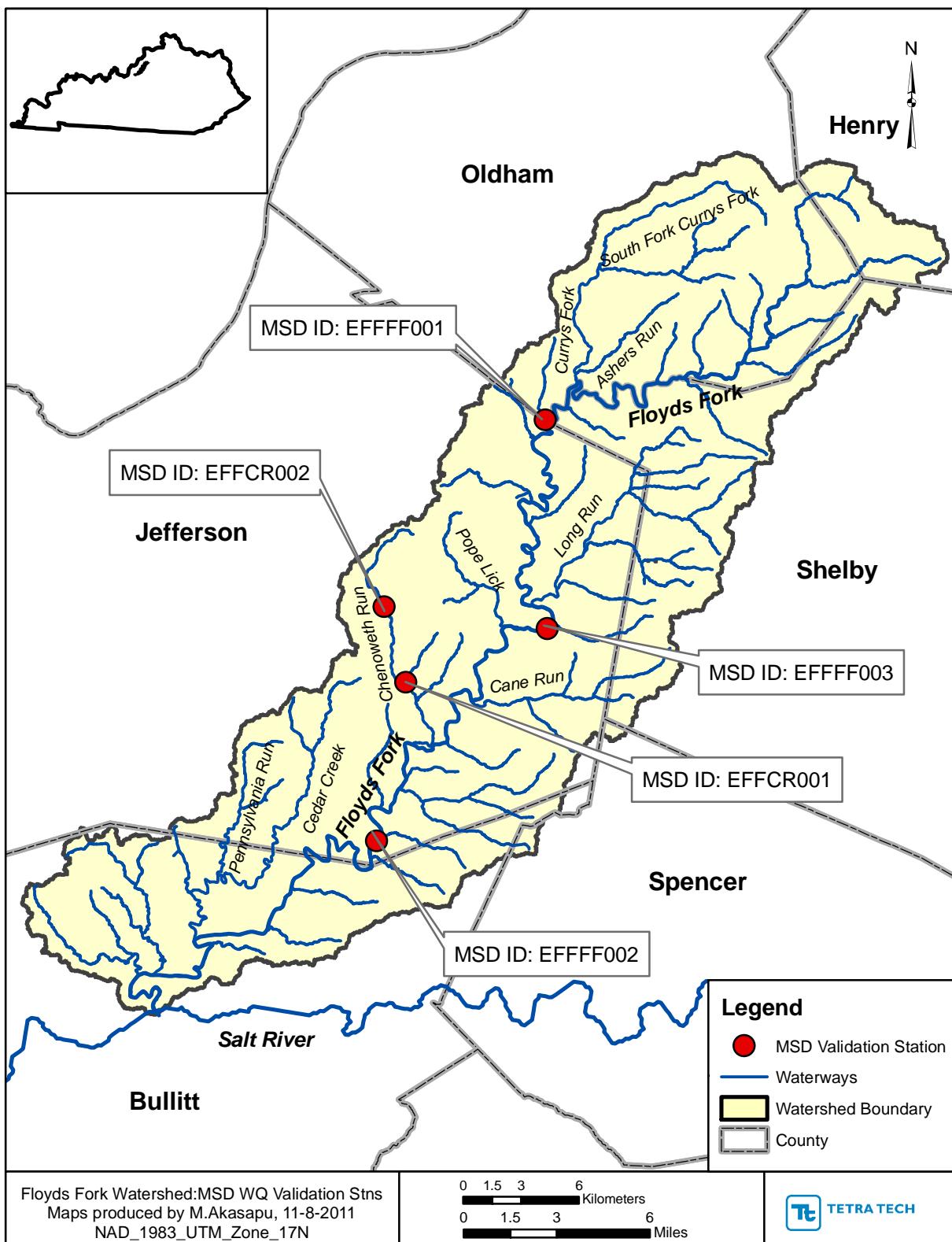


Figure B-264 MSD Water Quality Calibration Stations Utilized in the Floyds Fork Watershed Model

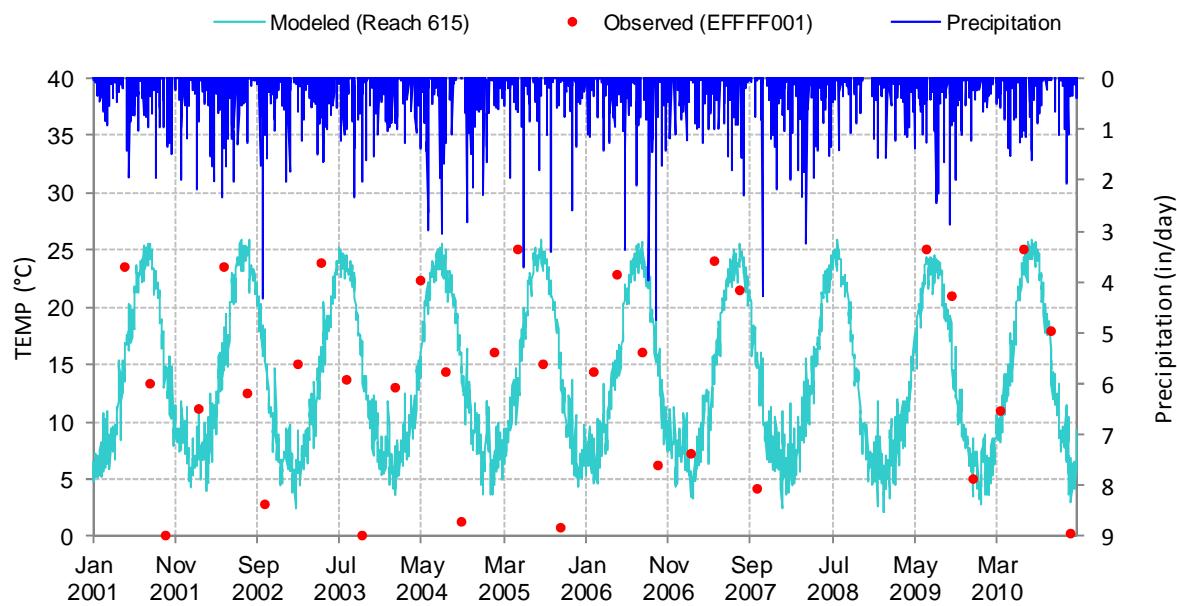


Figure B-265 Modeled vs. Observed TEMP (°C) at EFFFF001

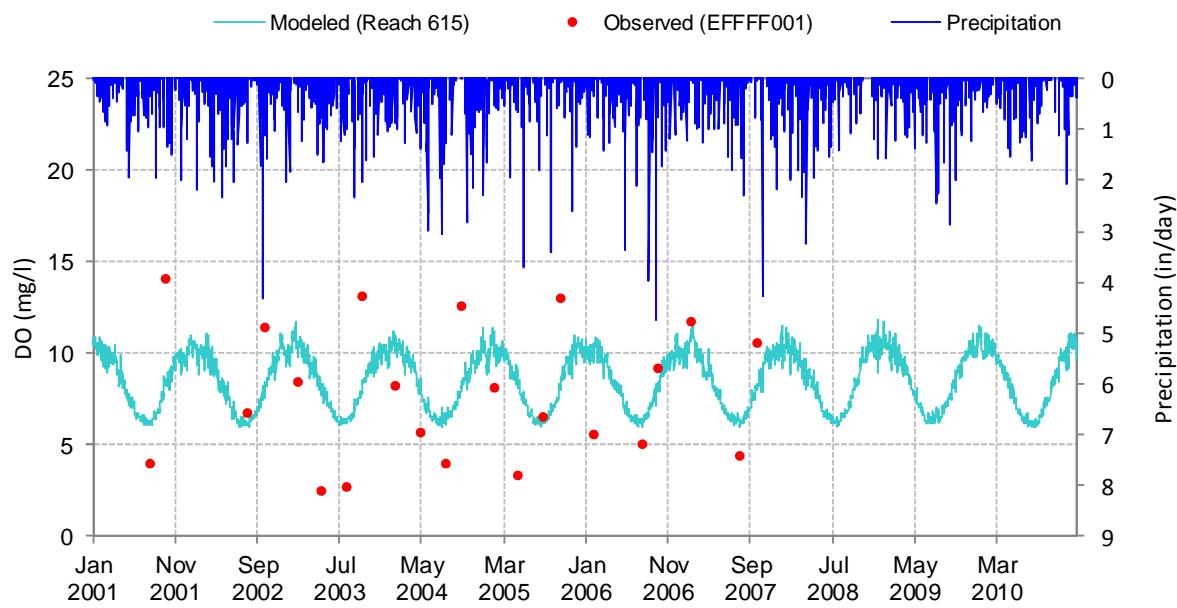


Figure B-266 Modeled vs. Observed DO (mg/l) at EFFFF001

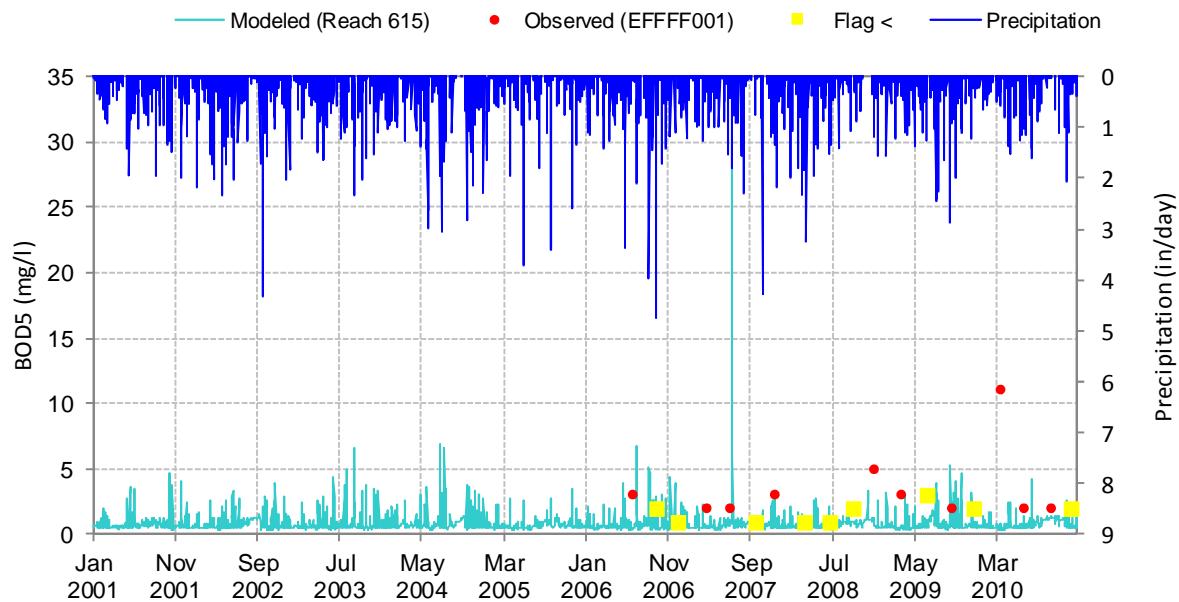


Figure B-267 Modeled vs. Observed BOD5 (mg/l) at EFFFF001

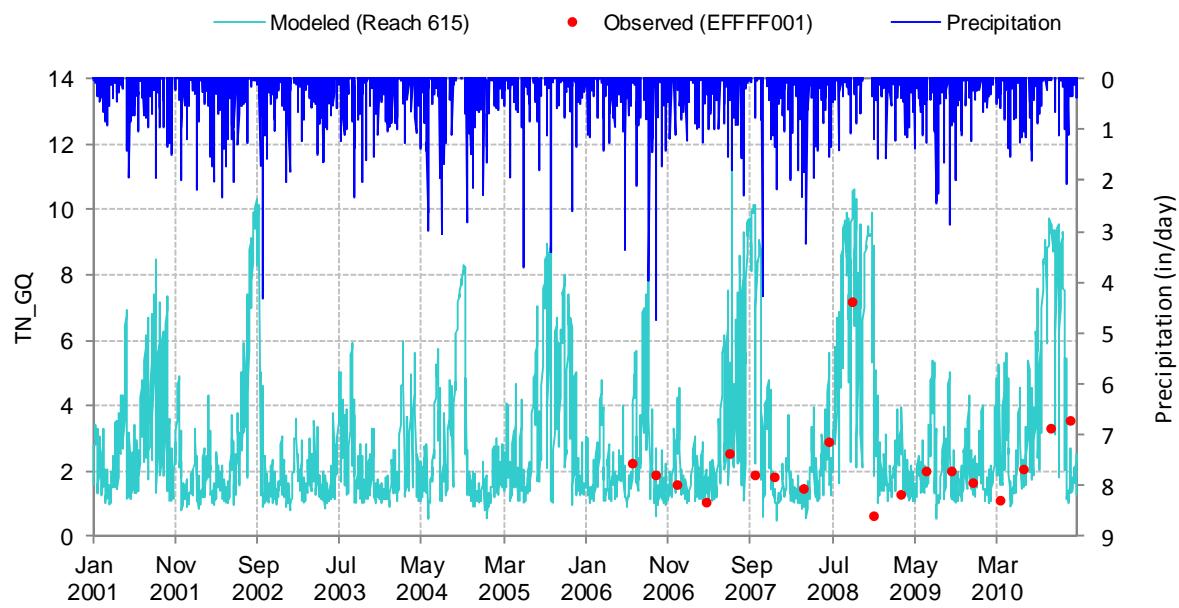


Figure B-268 Modeled vs. Observed TN\_GQ at EFFFF001

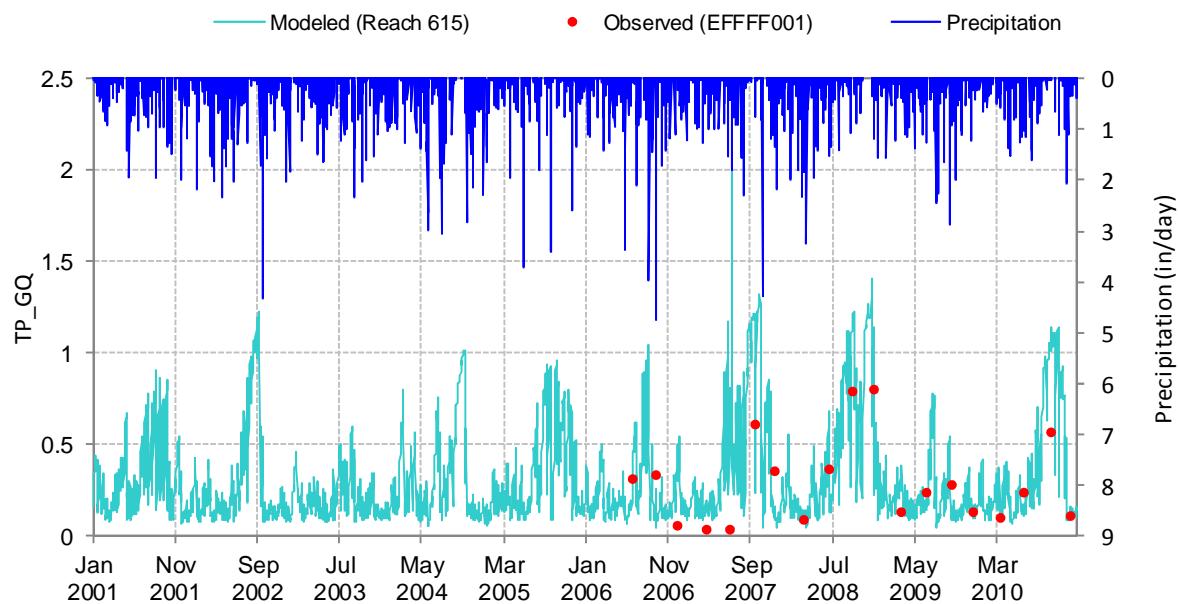


Figure B-269 Modeled vs. Observed TP\_GQ at EFFFF001

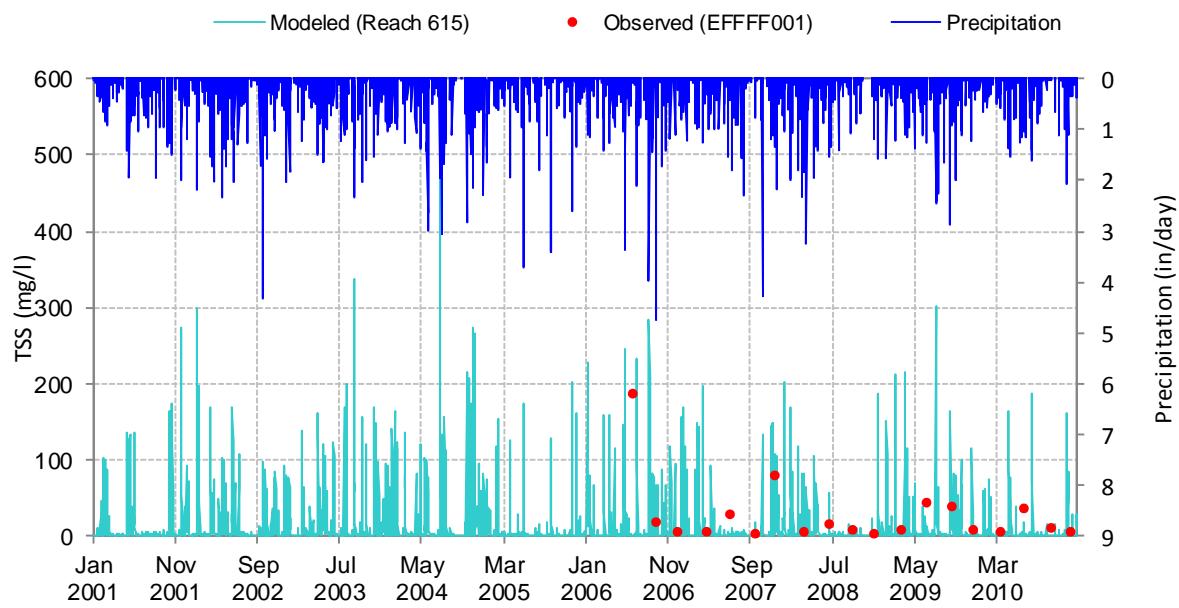


Figure B-270 Modeled vs. Observed TSS (mg/l) at EFFFF001

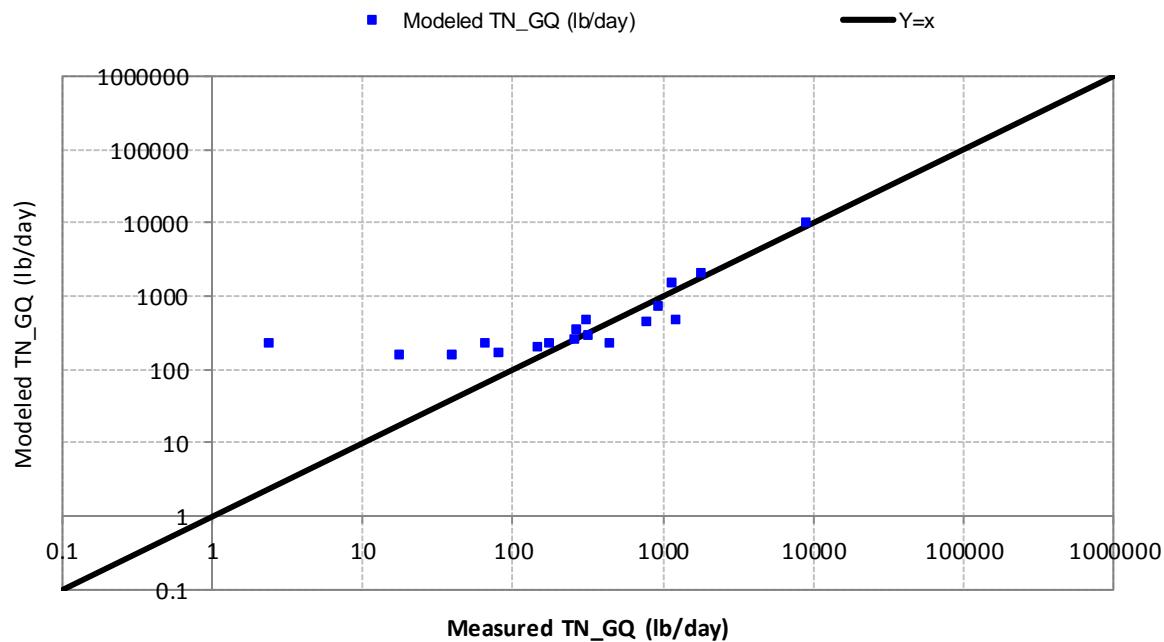


Figure B-271 Modeled vs. Observed Load TN\_GQ at EFFFF001

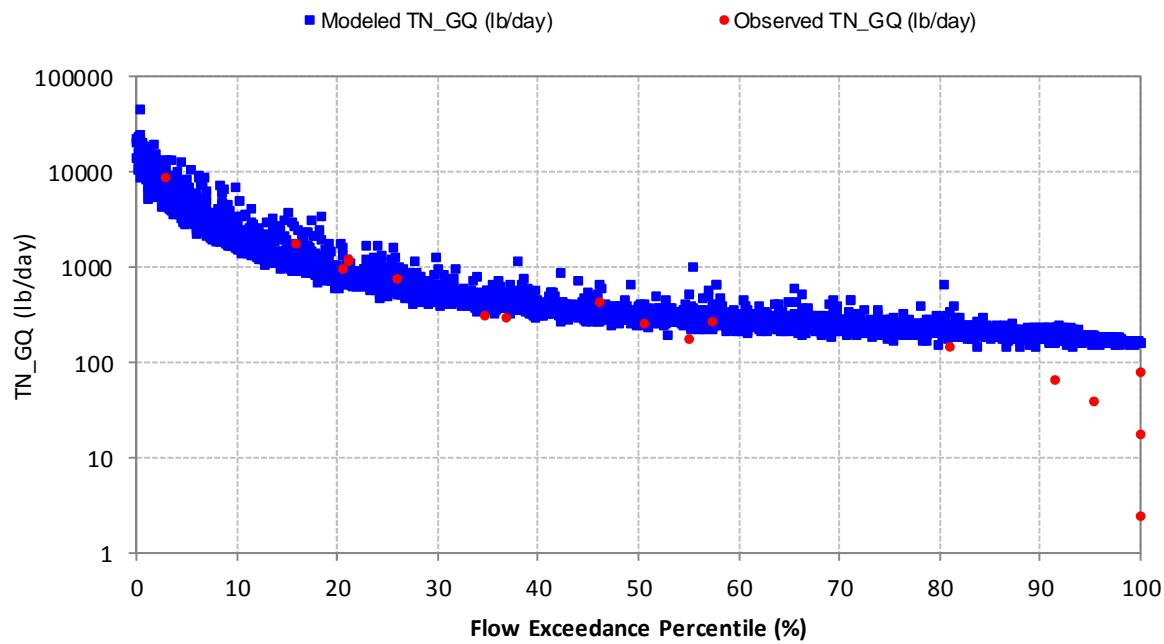


Figure B-272 Modeled vs. Observed Load TN\_GQ at EFFFF001

Table B-56 Modeled vs. Observed Load TN\_GQ at EFFFF001

Year	Simulated	Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2006	455,465	613,896	-25.81	586,876	-22.39
2007	323,645	394,580	-17.98	370,607	-12.67
2008	372,040	496,368	-25.05	512,048	-27.34
2009	407,929	451,322	-9.61	481,530	-15.28
2010	216,740	227,129	-4.57	247,077	-12.28

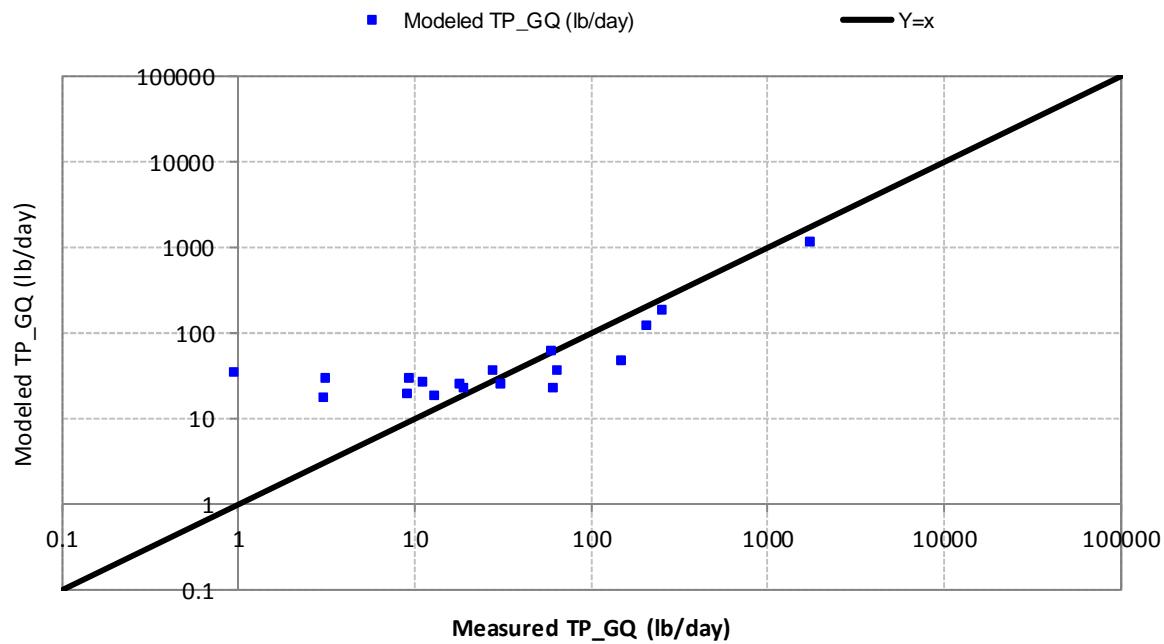


Figure B-273 Modeled vs. Observed Load TP\_GQ at EFFFF001

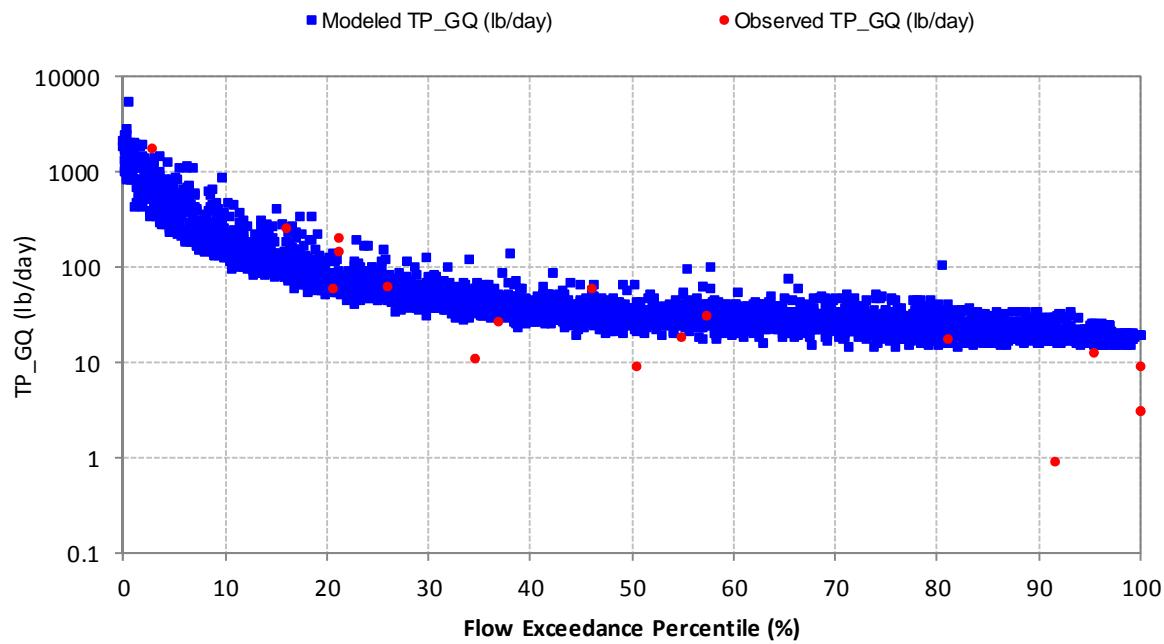


Figure B-274 Modeled vs. Observed Load TP\_GQ at EFFFF001

Table B-57 Modeled vs. Observed Load TP\_GQ at EFFFF001

Year	Simulated	Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2006	44,152	87,260	-49.4	81,794	-46.02
2007	33,464	55,338	-39.53	46,330	-27.77
2008	38,429	82,035	-53.15	60,945	-36.94
2009	38,504	94,139	-59.1	73,318	-47.48
2010	19,977	21,968	-9.06	21,590	-7.47

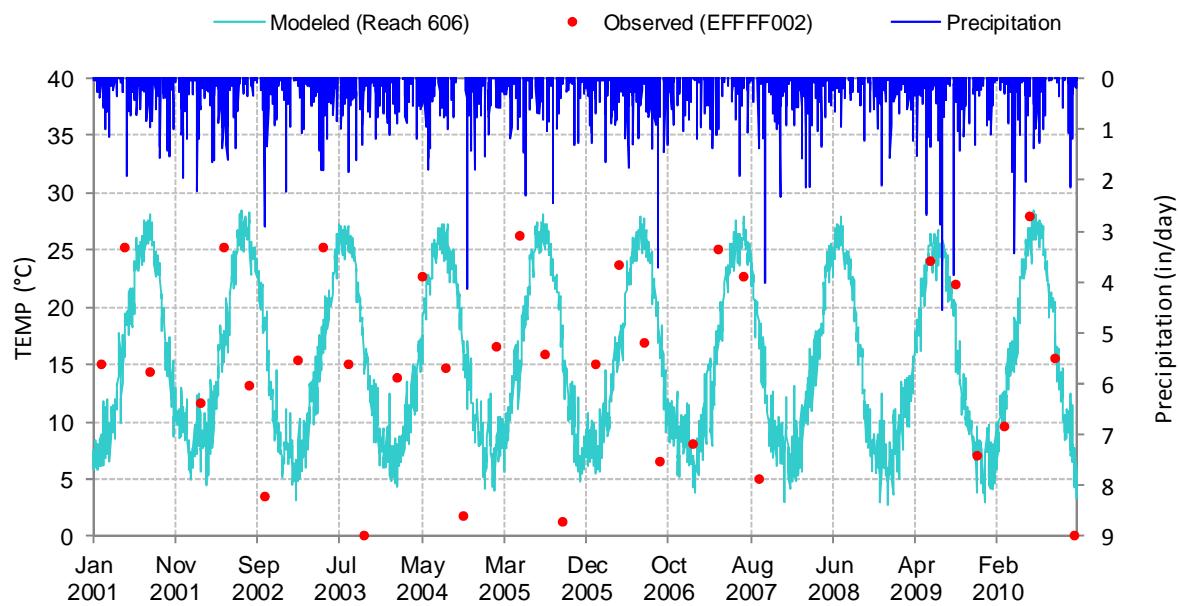
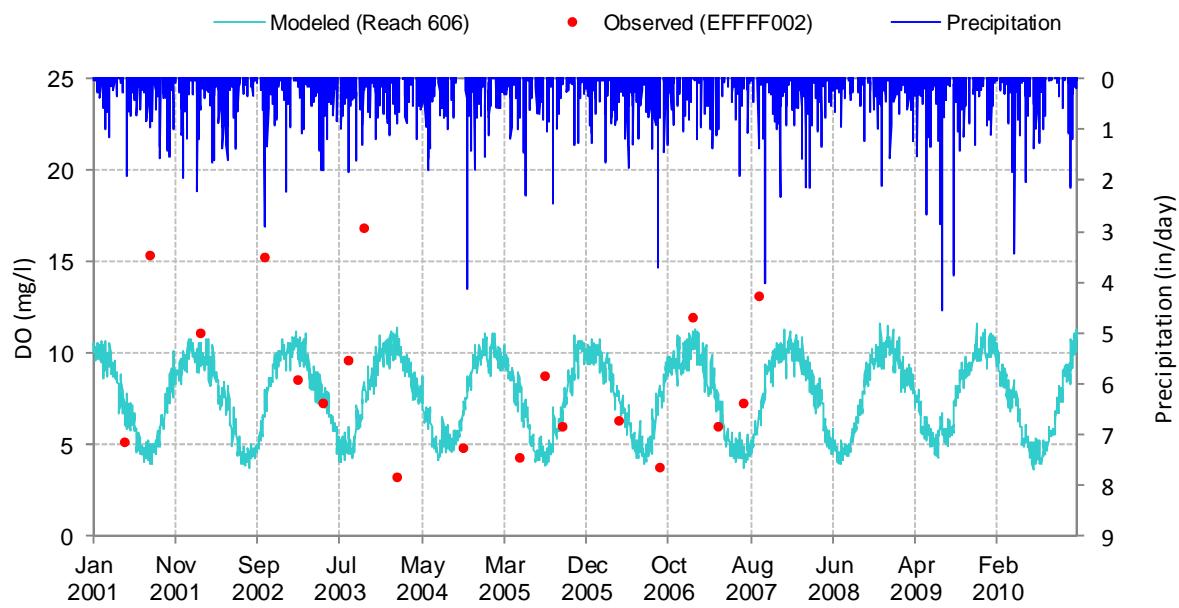
Figure B-275 Modeled vs. Observed TEMP ( $^{\circ}\text{C}$ ) at EFFFF002

Figure B-276 Modeled vs. Observed DO (mg/l) at EFFFF002

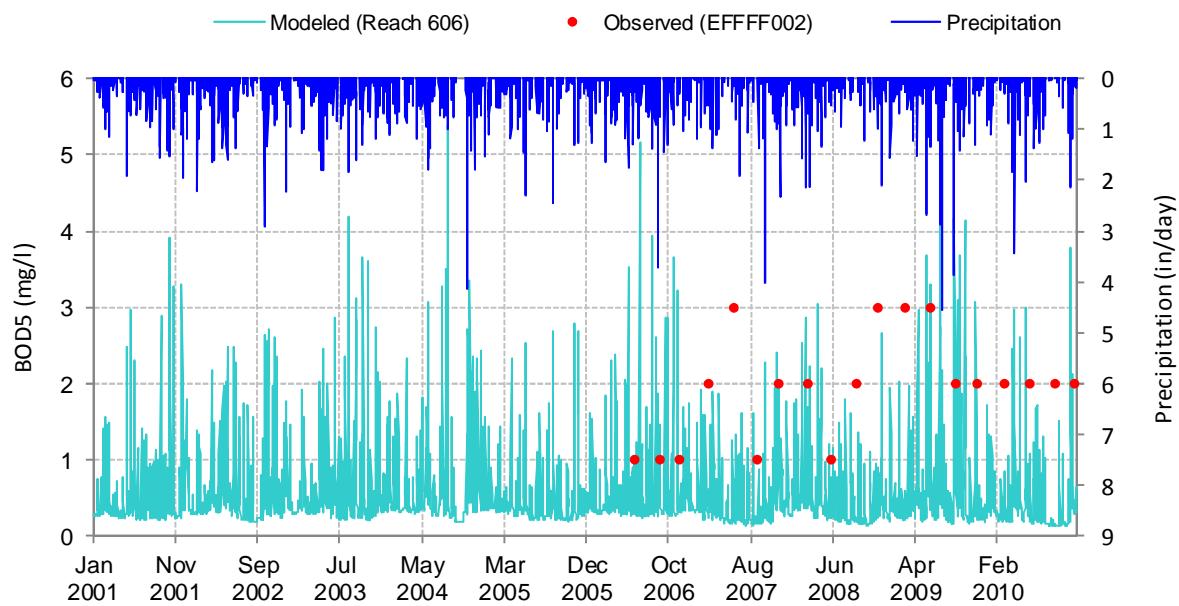


Figure B-277 Modeled vs. Observed BOD5 (mg/l) at EFFFF002

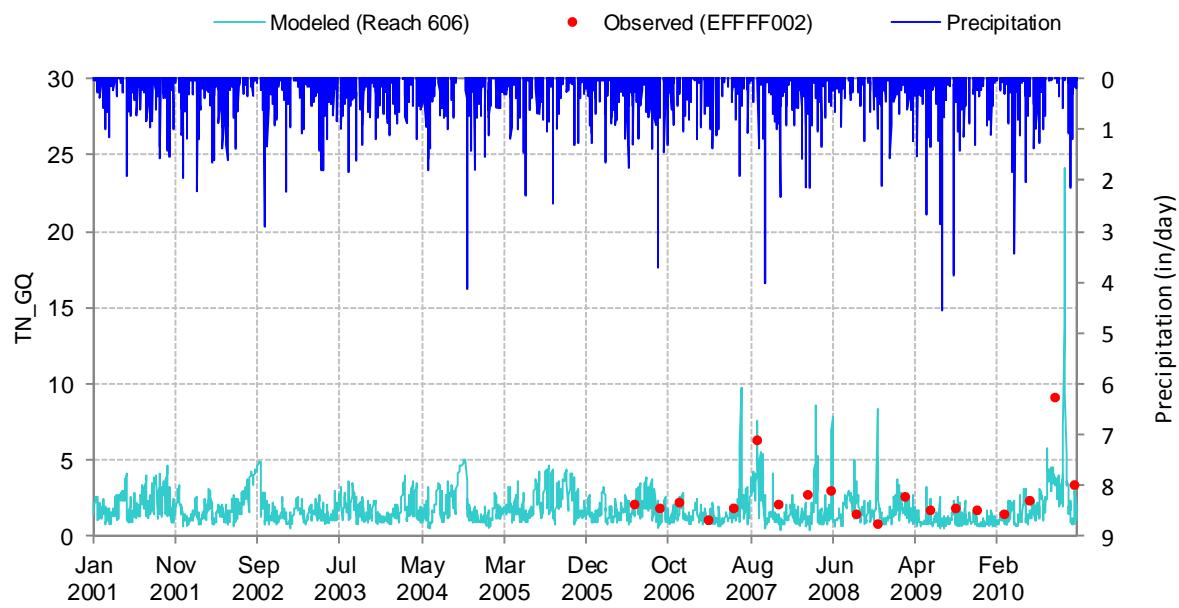


Figure B-278 Modeled vs. Observed TN\_GQ at EFFFF002

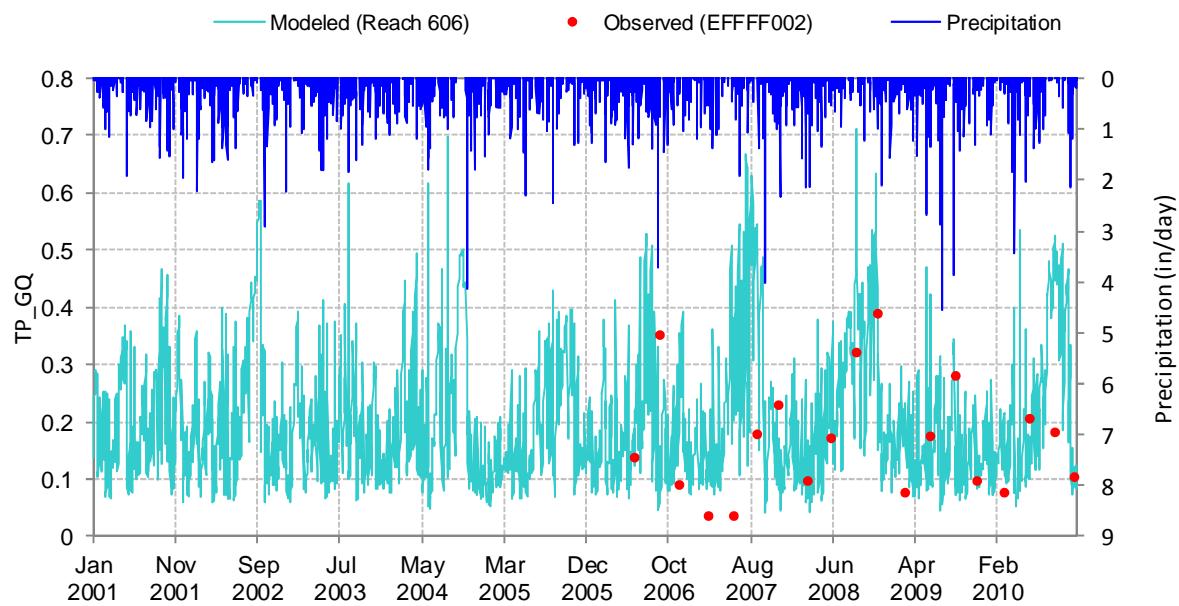


Figure B-279 Modeled vs. Observed TP\_GQ at EFFFF002

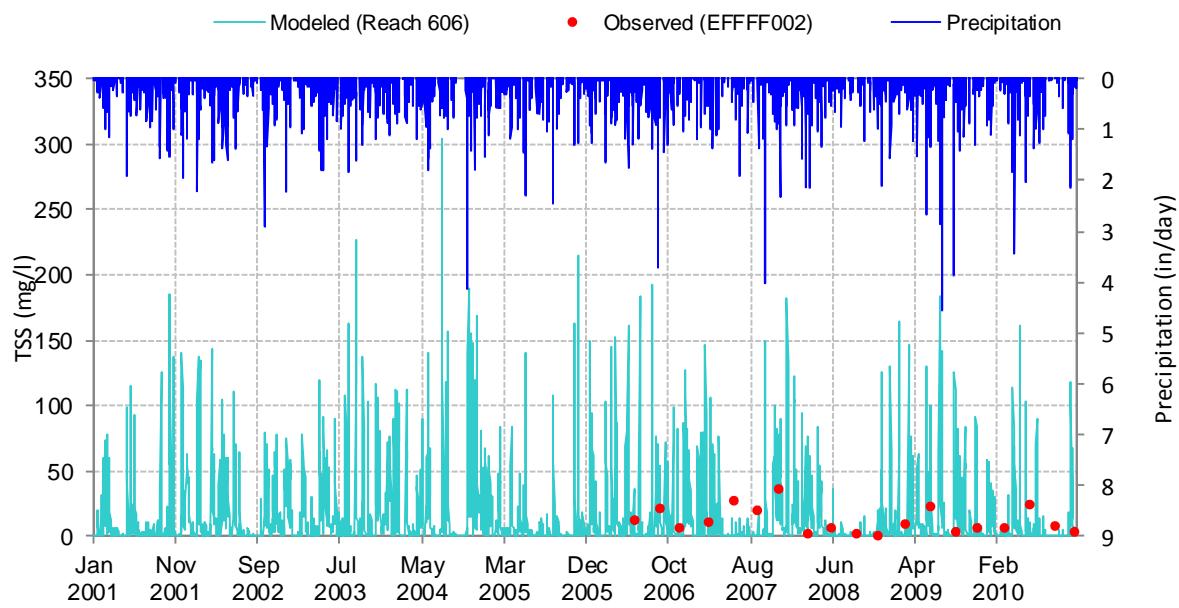


Figure B-280 Modeled vs. Observed TSS (mg/l) at EFFFF002

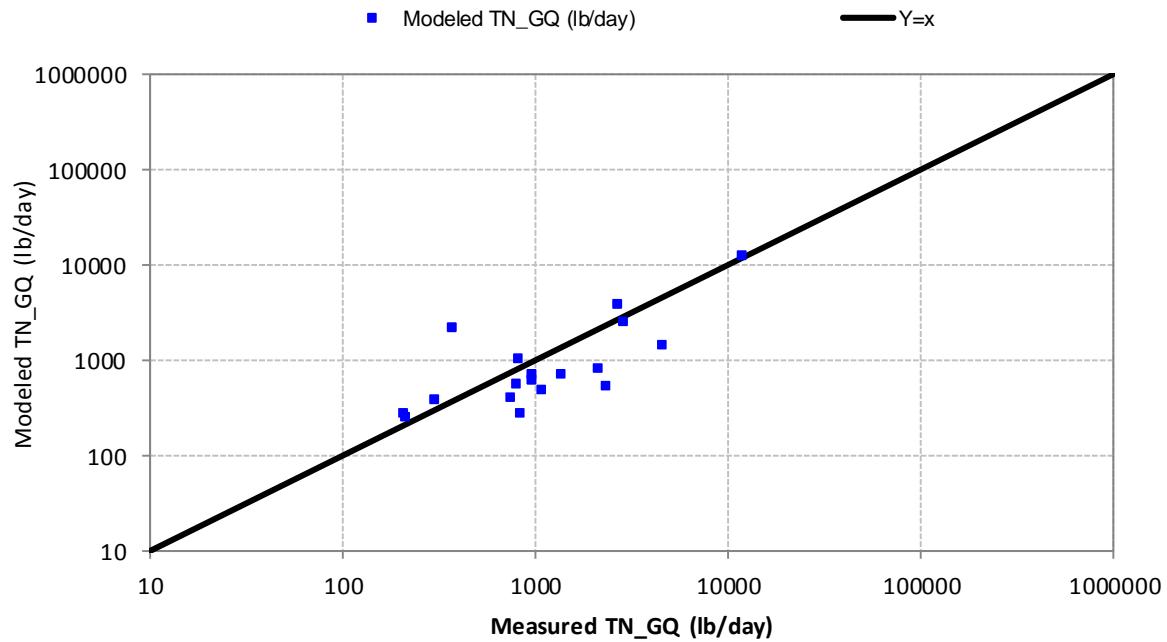


Figure B-281 Modeled vs. Observed Load TN\_GQ at EFFFF002

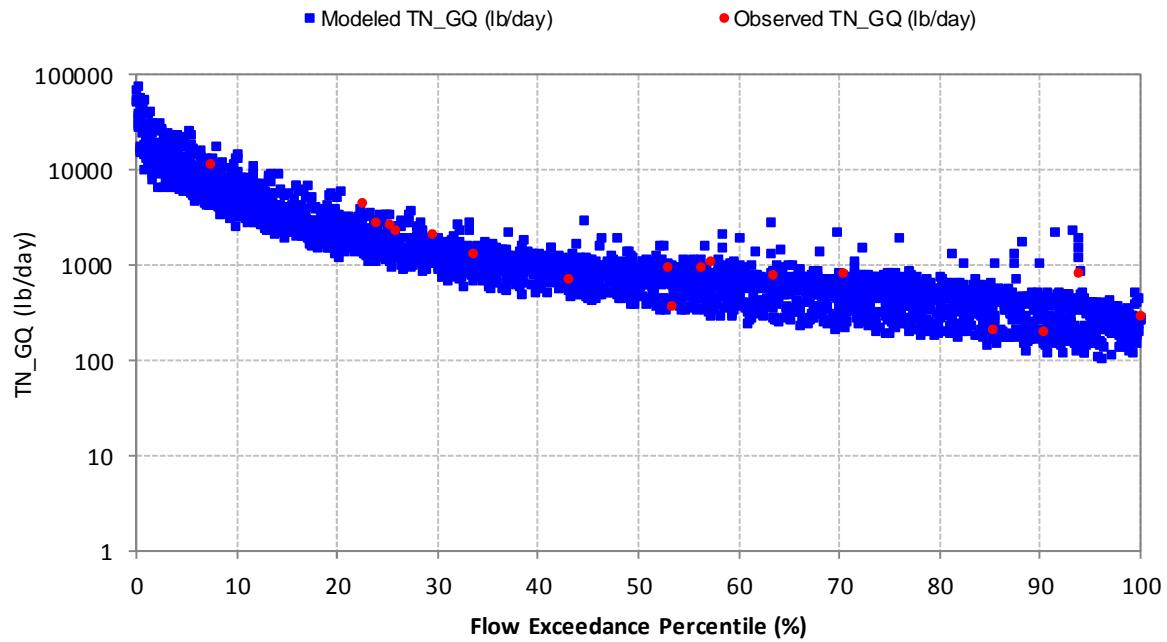


Figure B-282 Modeled vs. Observed Load TN\_GQ at EFFFF002

Table B-58 Modeled vs. Observed Load TN\_GQ at EFFFF002

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2006	1,025,553	1,560,446	-34.28	1,550,500	-33.86
2007	642,160	1,831,484	-64.94	1,374,520	-53.28
2008	849,716	1,802,045	-52.85	1,981,608	-57.12
2009	919,292	1,299,835	-29.28	1,344,397	-31.62

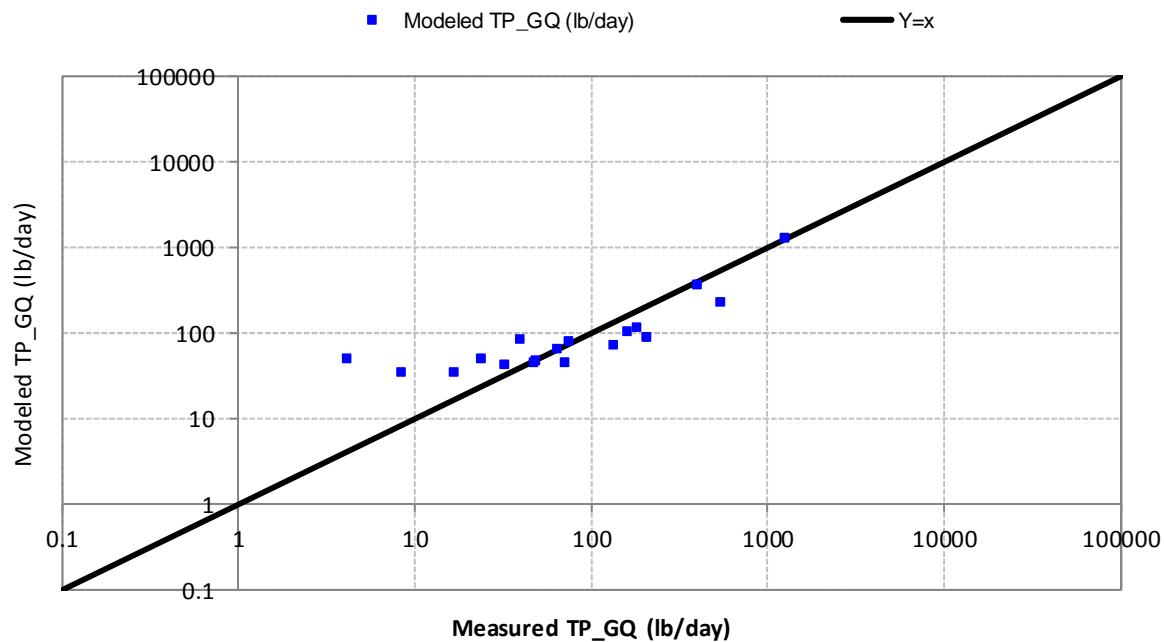


Figure B-283 Modeled vs. Observed Load TP\_GQ at EFFFF002

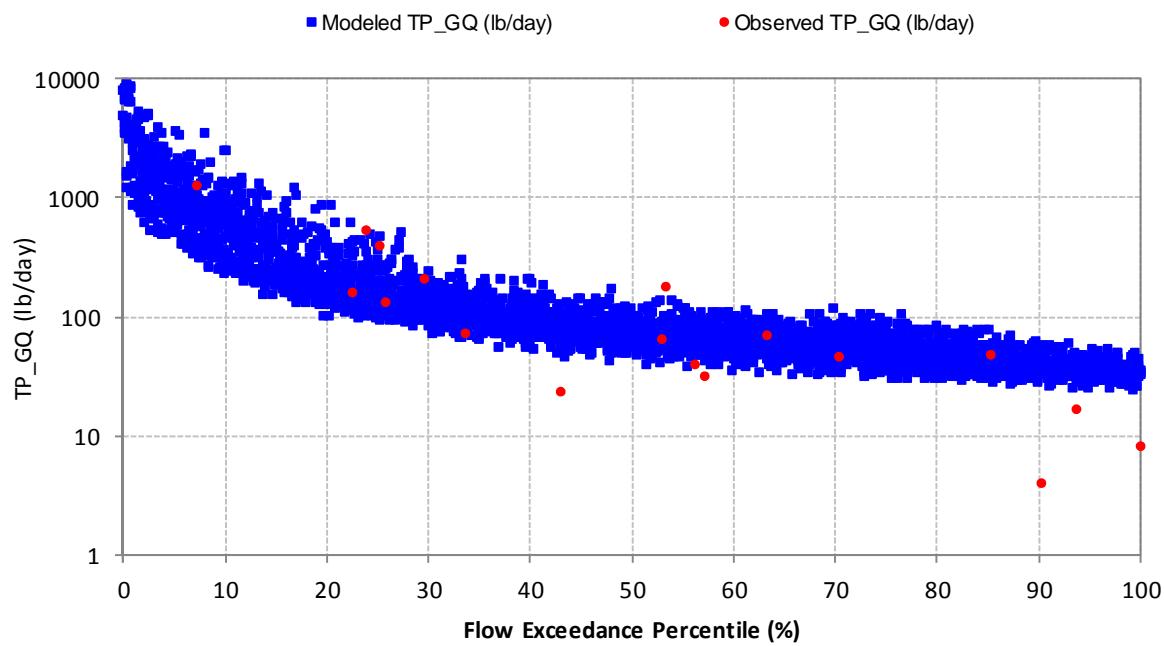


Figure B-284 Modeled vs. Observed Load TP\_GQ at EFFFF002

Table B-59 Modeled vs. Observed Load TP\_GQ at EFFFF002

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2006	115,262	134,568	-14.35	148,006	-22.12
2007	71,056	77,033	-7.76	74,011	-3.99
2008	99,182	139,315	-28.81	112,032	-11.47
2009	110,457	147,814	-25.27	126,092	-12.4

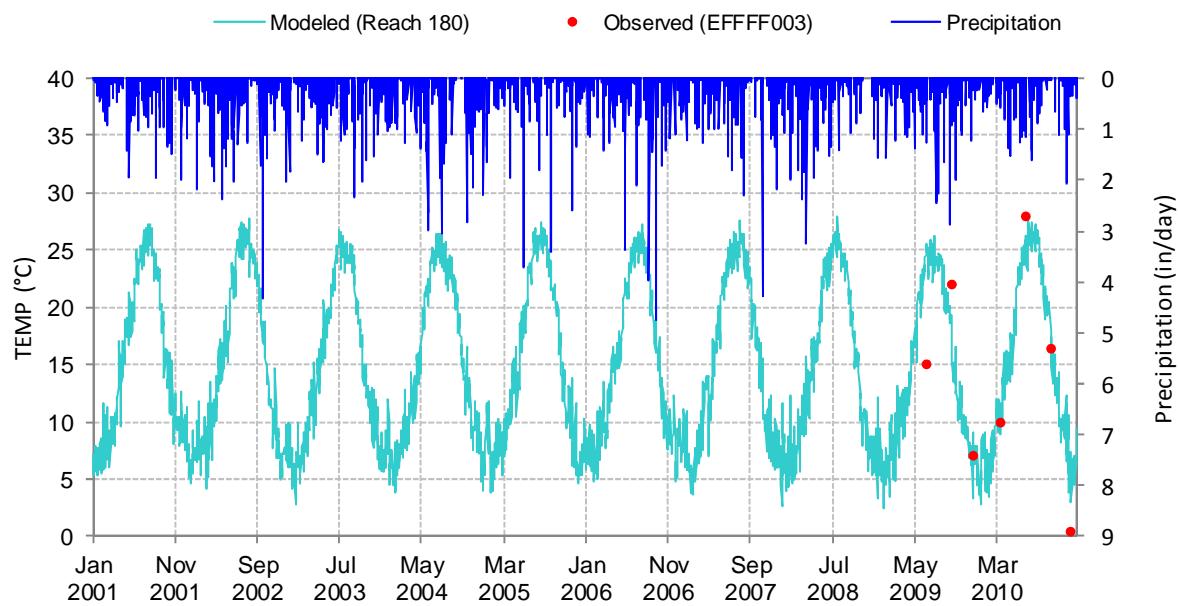


Figure B-285 Modeled vs. Observed TEMP (°C) at EFFFF003

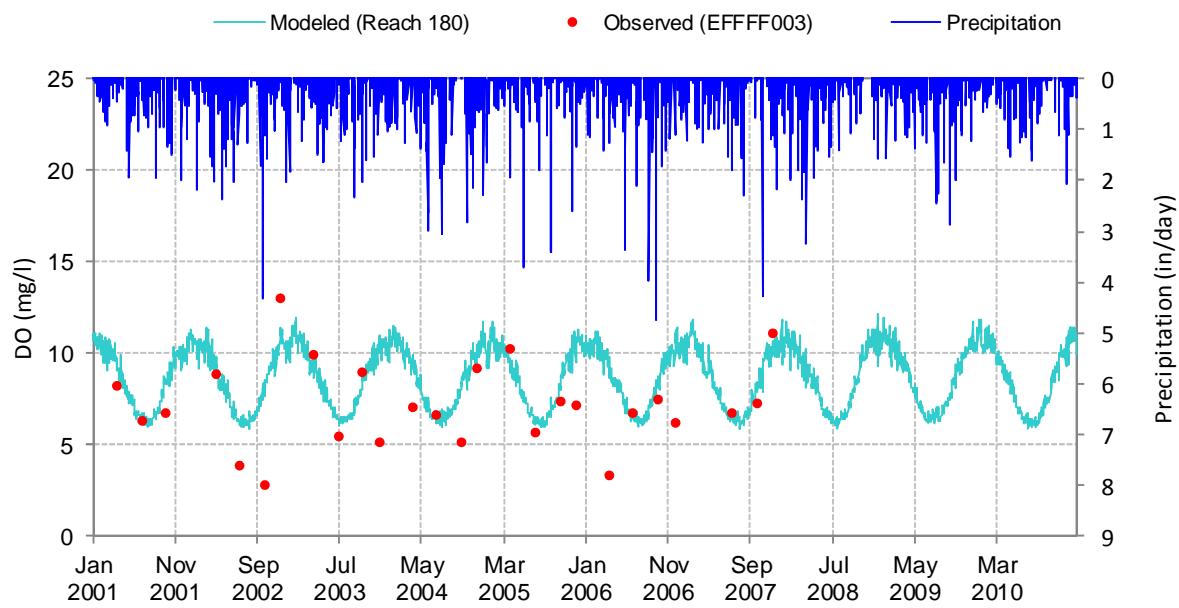


Figure B-286 Modeled vs. Observed DO (mg/l) at EFFFF003

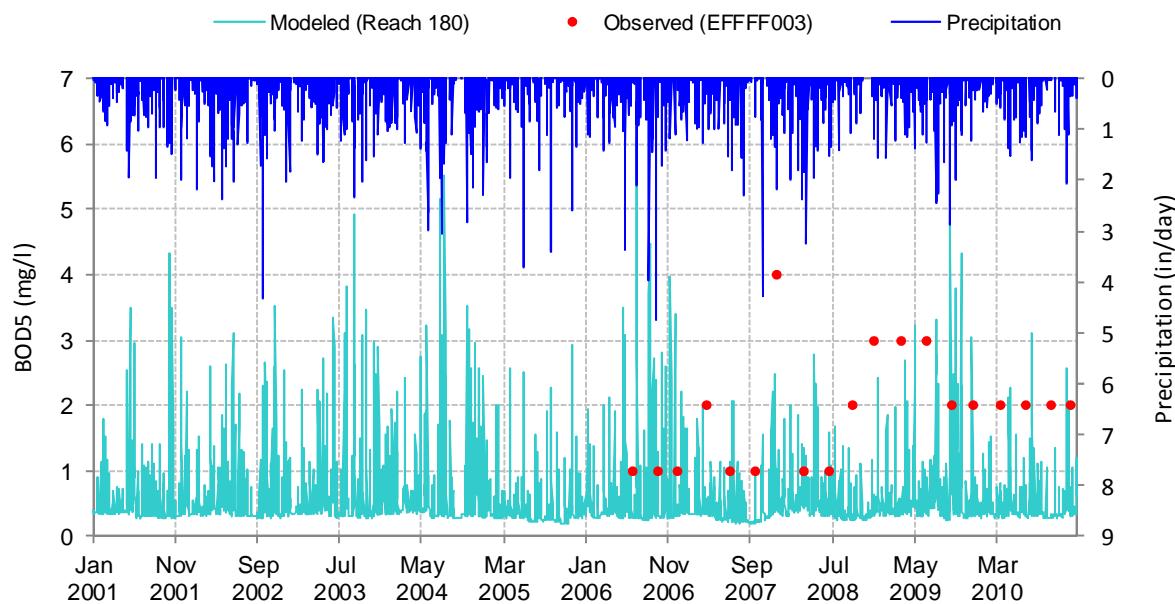


Figure B-287 Modeled vs. Observed BOD5 (mg/l) at EFFFF003

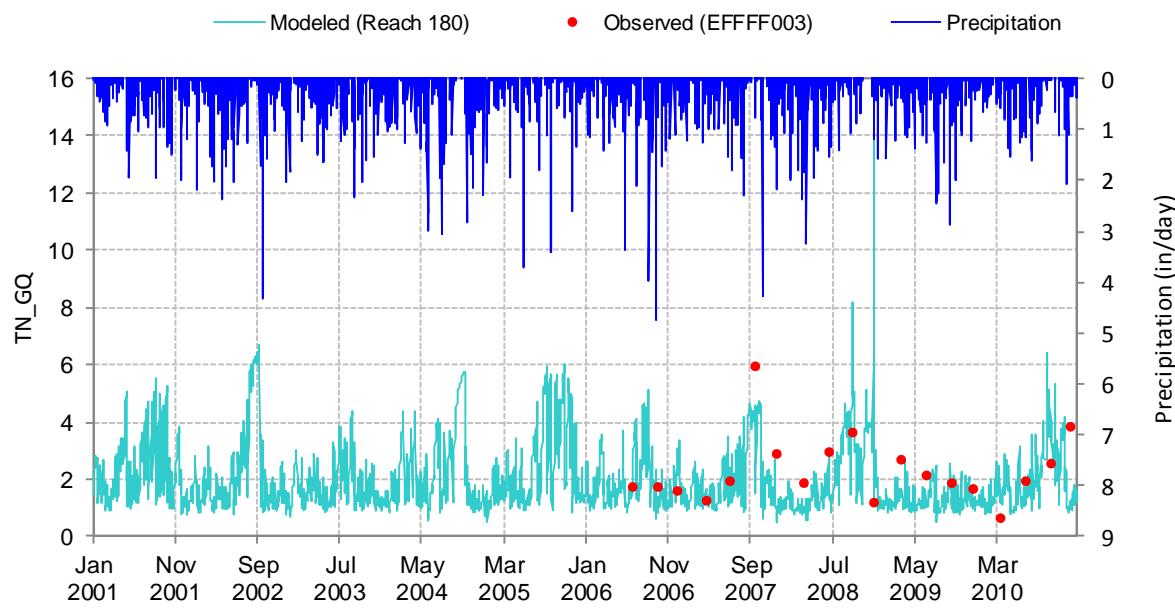


Figure B-288 Modeled vs. Observed TN\_GQ at EFFFF003

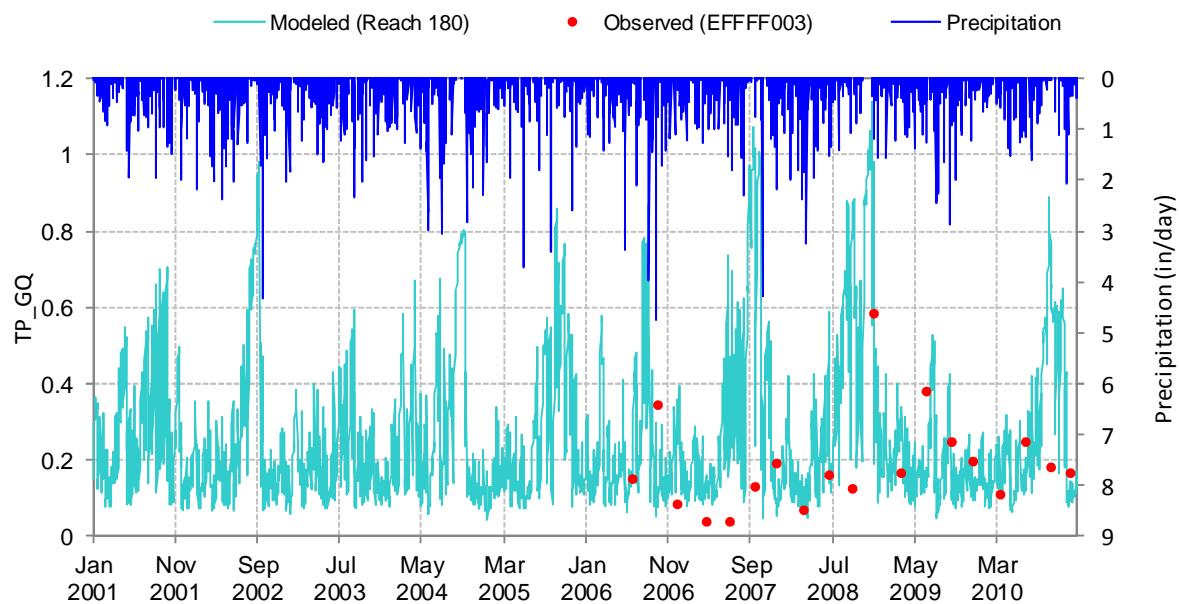


Figure B-289 Modeled vs. Observed TP\_GQ at EFFFF003

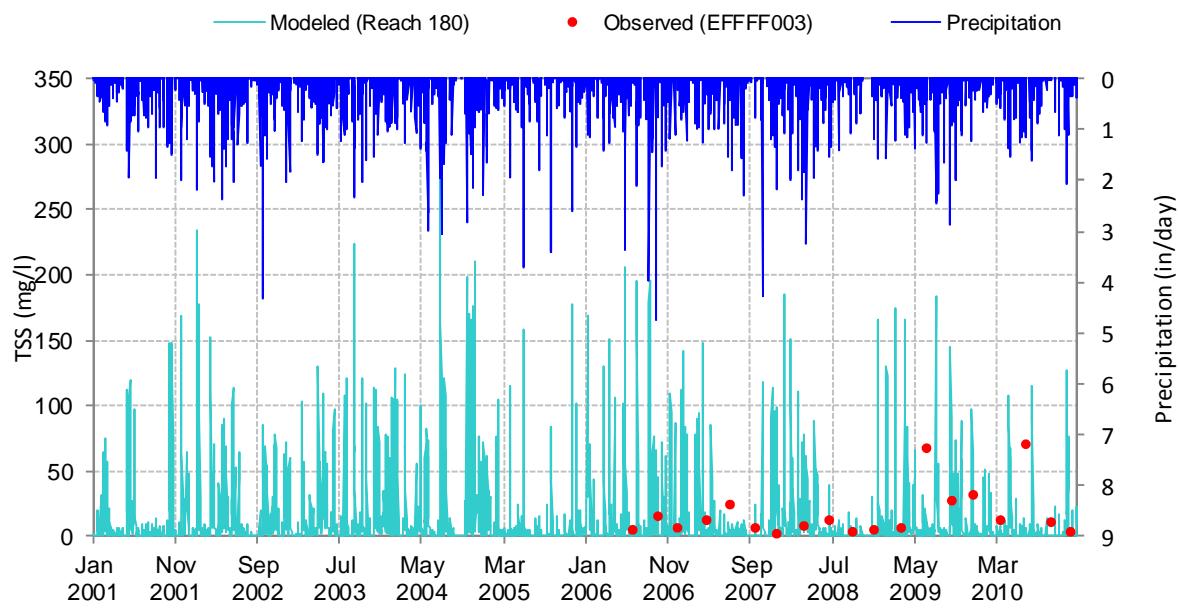


Figure B-290 Modeled vs. Observed TSS (mg/l) at EFFFF003

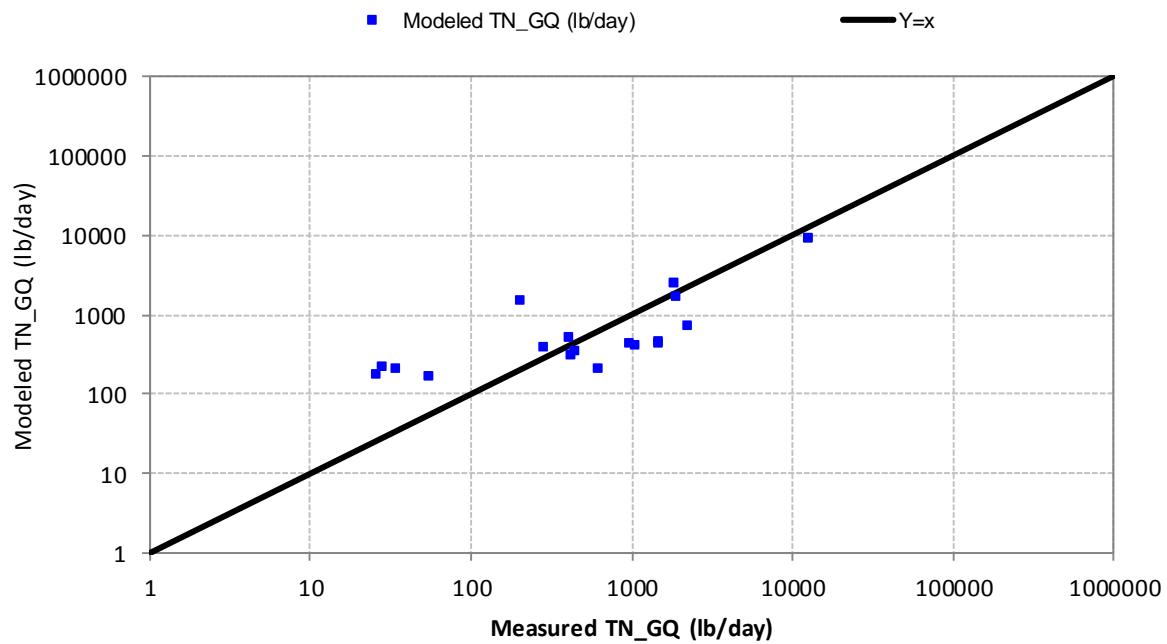


Figure B-291 Modeled vs. Observed Load TN\_GQ at EFFFF003

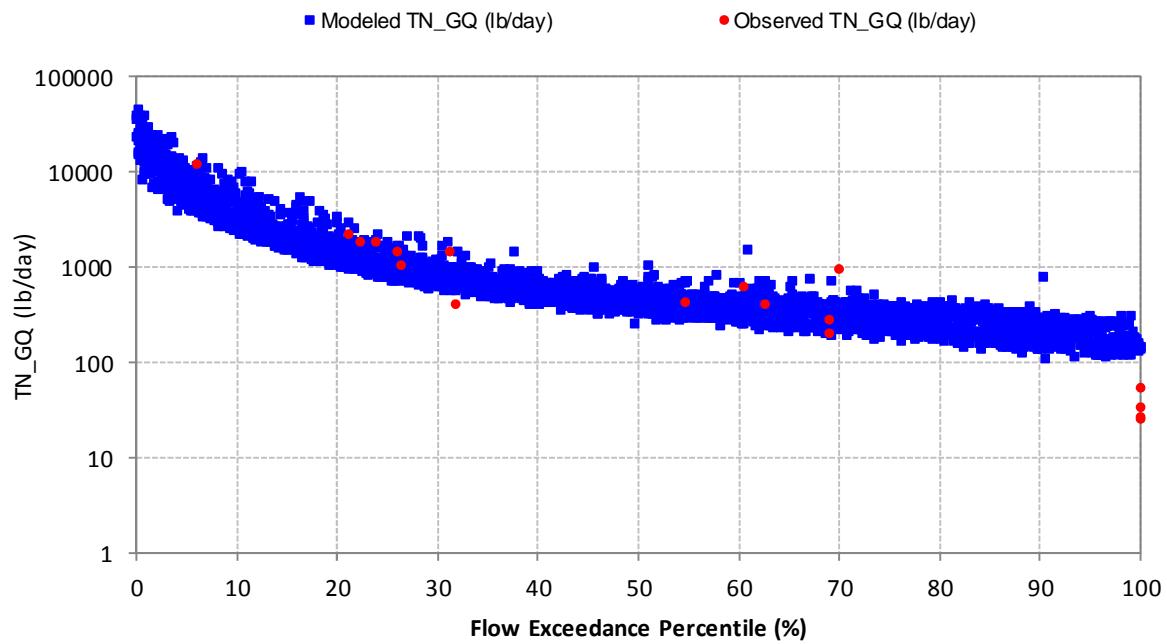


Figure B-292 Modeled vs. Observed Load TN\_GQ at EFFFF003

Table B-60 Modeled vs. Observed Load TN\_GQ at EFFFF003

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2006	726,069	881,507	-17.63	876,540	-17.17	
2007	465,185	1,157,079	-59.8	980,283	-52.55	
2008	541,747	1,245,491	-56.5	1,118,682	-51.57	
2009	592,465	1,032,744	-42.63	1,053,743	-43.78	
2010	295,763	398,462	-25.77	450,669	-34.37	

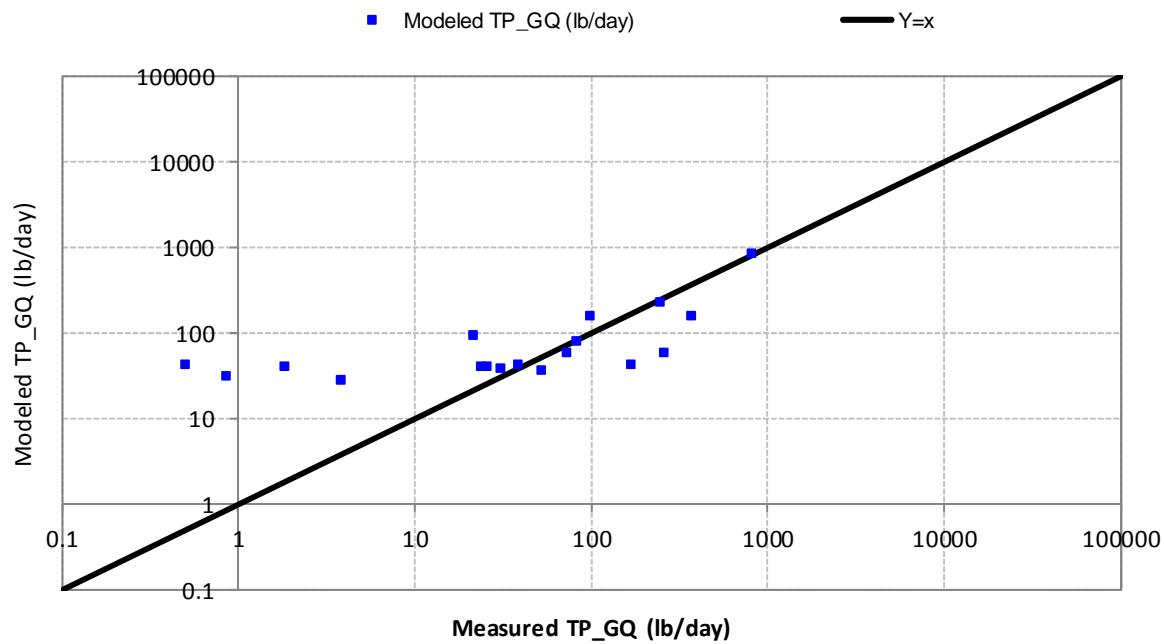


Figure B-293 Modeled vs. Observed Load TP\_GQ at EFFFF003

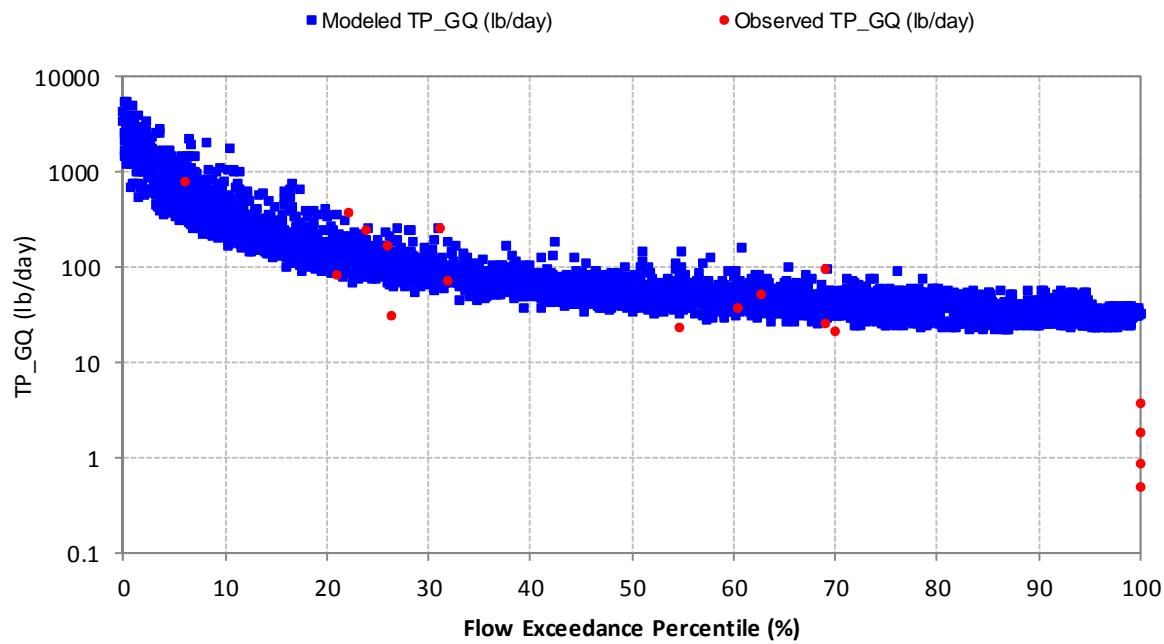


Figure B-294 Modeled vs. Observed Load TP\_GQ at EFFFF003

Table B-61 Modeled vs. Observed Load TP\_GQ at EFFFF003

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2006	78,440	95,320	-17.71	101,892	-23.02
2007	51,473	44,089	16.75	42,897	19.99
2008	65,748	81,308	-19.14	63,412	3.68
2009	68,583	156,880	-56.28	137,908	-50.27
2010	34,640	45,418	-23.73	48,541	-28.64

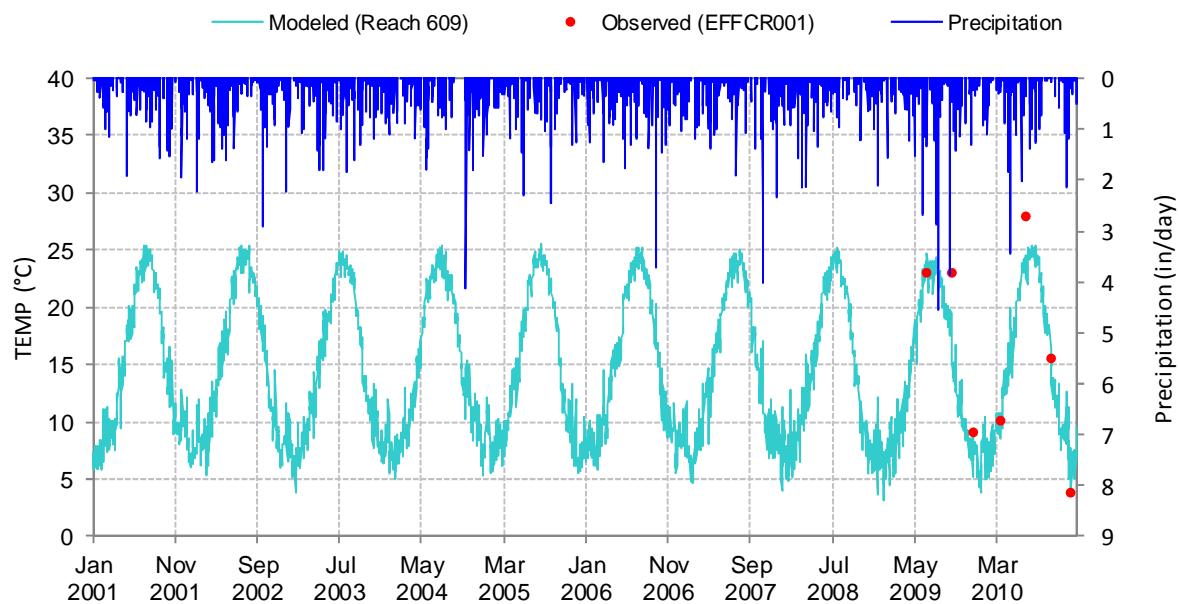


Figure B-295 Modeled vs. Observed TEMP (°C) at EFFCR001

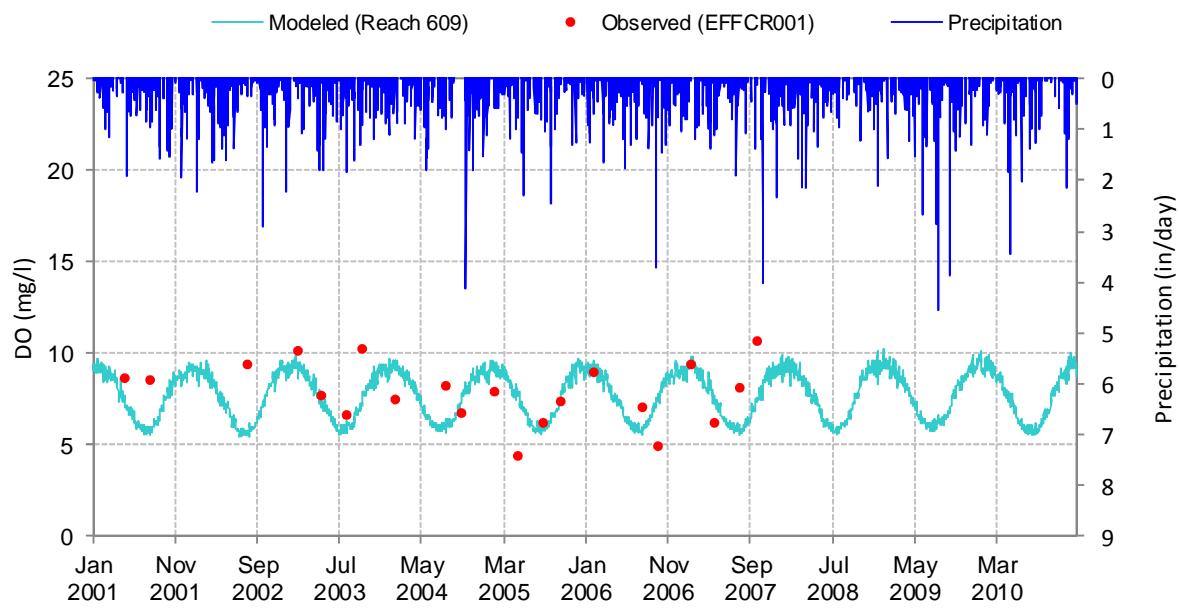


Figure B-296 Modeled vs. Observed DO (mg/l) at EFFCR001

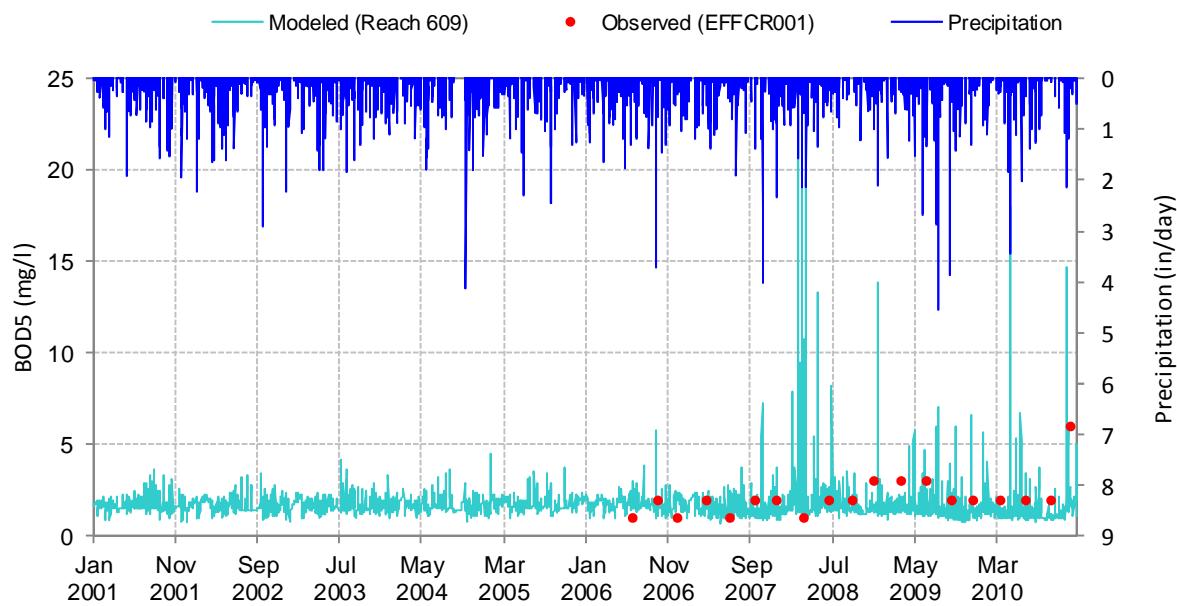


Figure B-297 Modeled vs. Observed BOD5 (mg/l) at EFFCR001

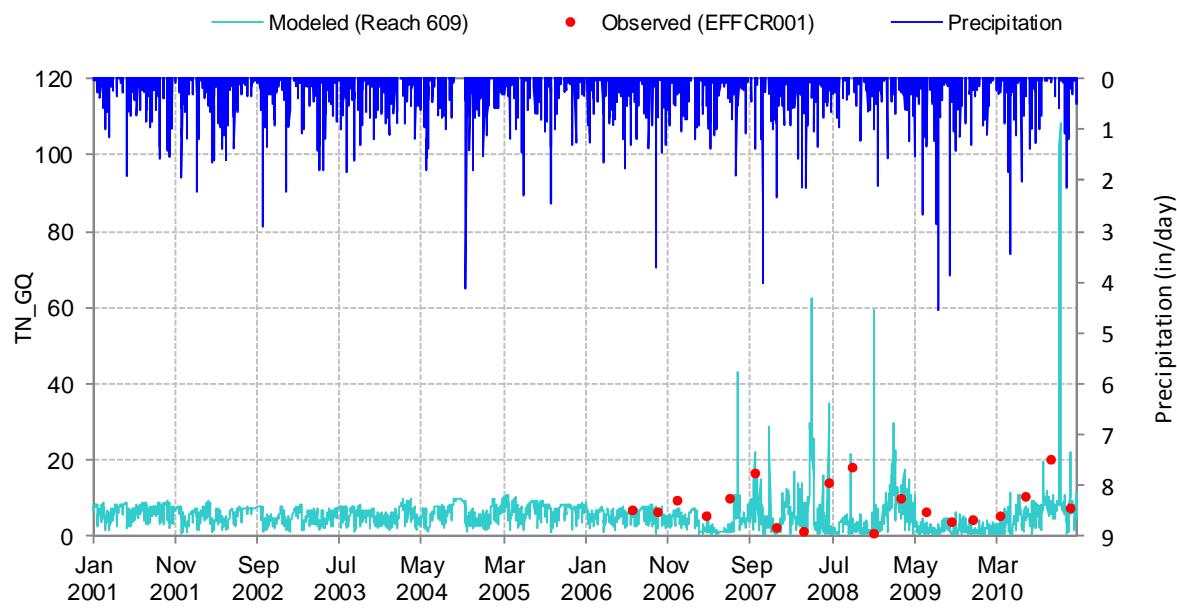


Figure B-298 Modeled vs. Observed TN\_GQ at EFFCR001

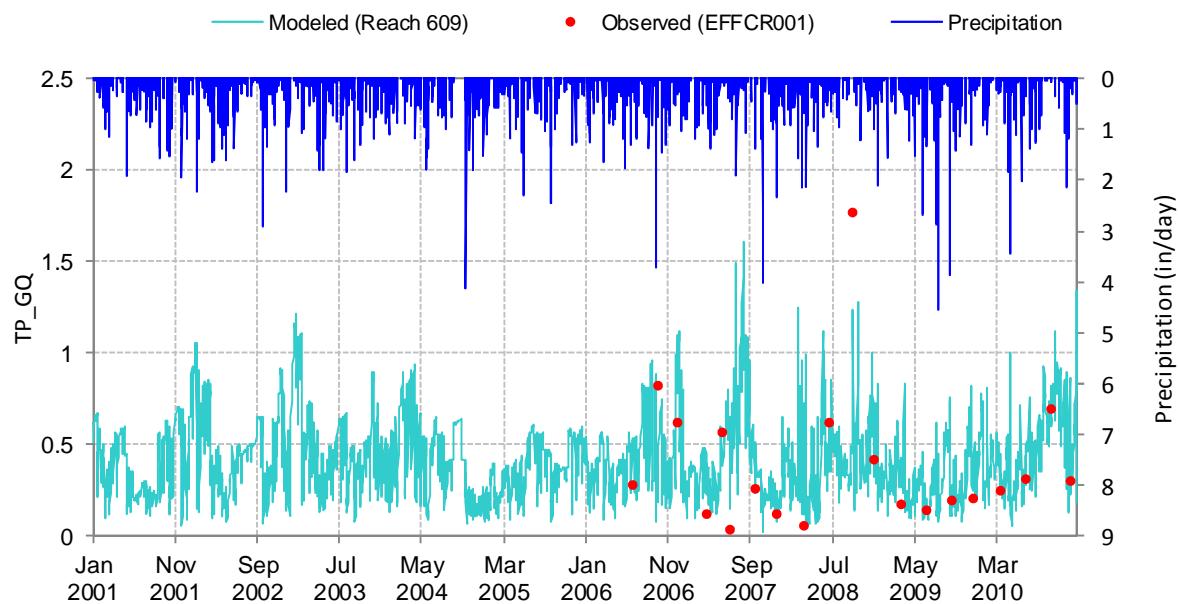


Figure B-299 Modeled vs. Observed TP\_GQ at EFFCR001

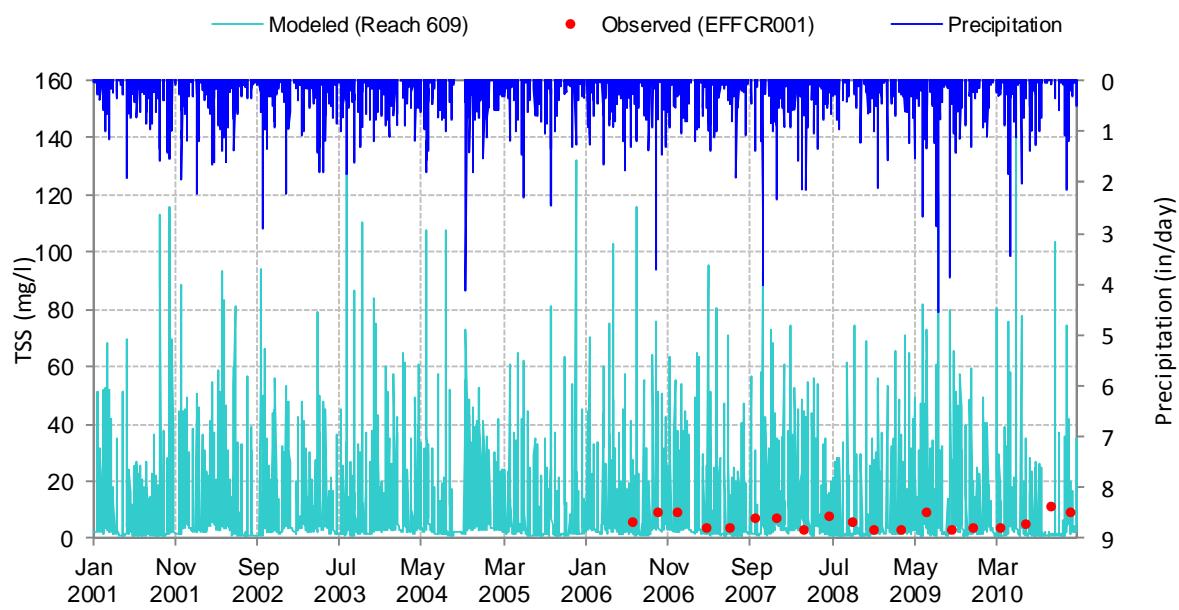


Figure B-300 Modeled vs. Observed TSS (mg/l) at EFFCR001

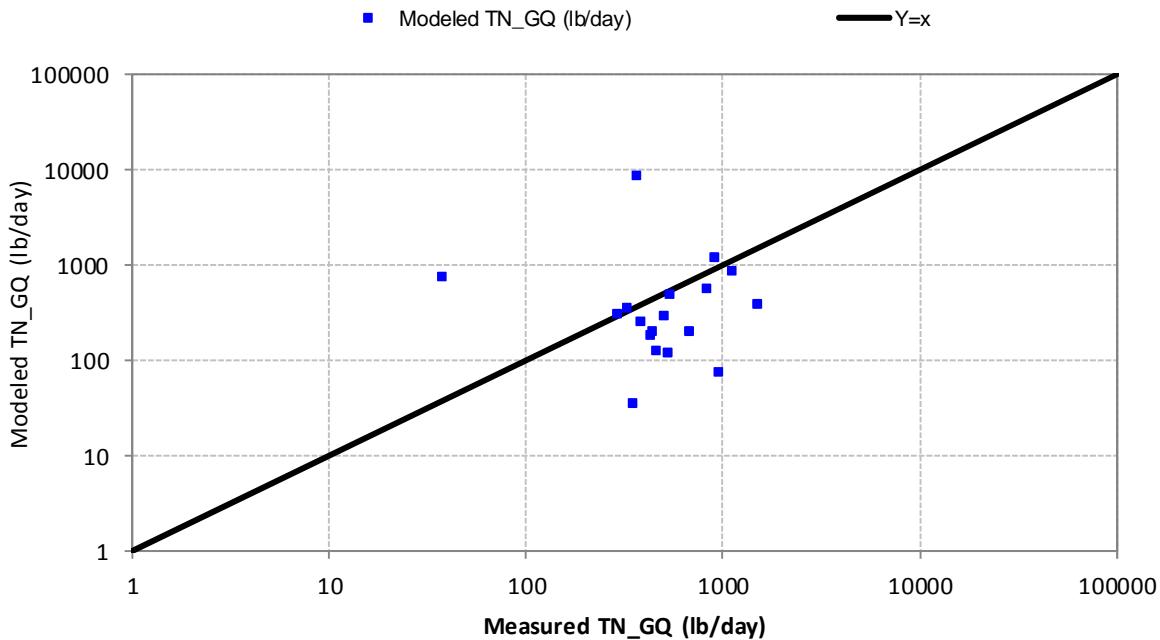


Figure B-301 Modeled vs. Observed Load TN\_GQ at EFFCR001

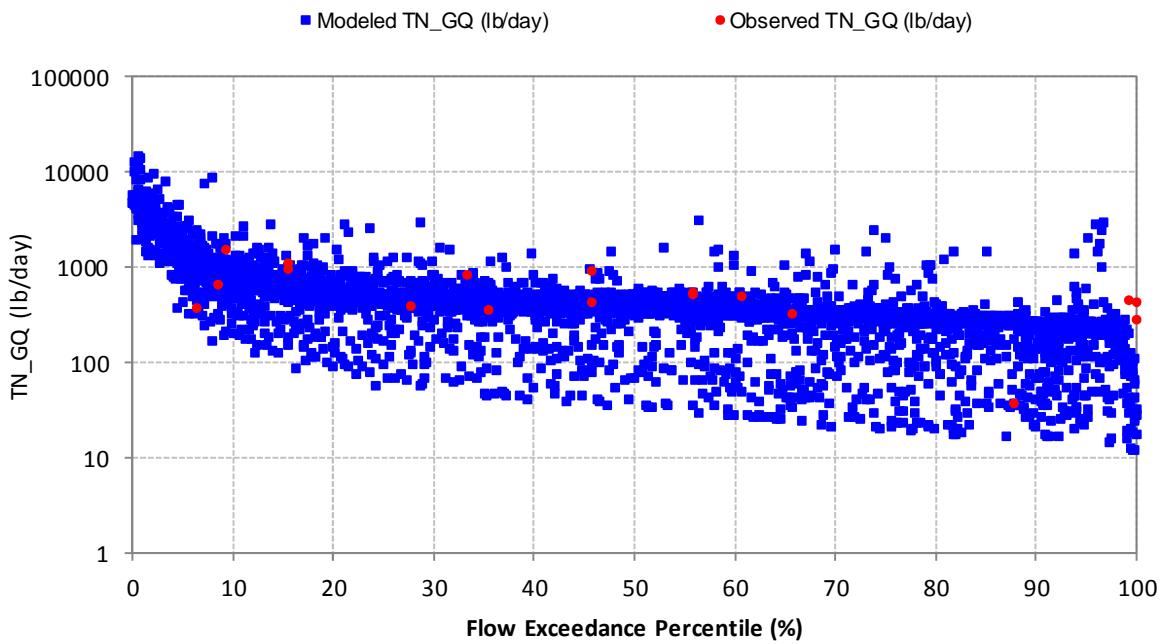


Figure B-302 Modeled vs. Observed Load TN\_GQ at EFFCR001

Table B-62 Modeled vs. Observed Load TN\_GQ at EFFCR001

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2006	225,288	446,026	-49.49	450,969	-50.04	
2007	146,534	539,661	-72.85	417,142	-64.87	
2008	260,725	268,601	-2.93	351,971	-25.92	
2009	179,413	300,637	-40.32	317,338	-43.46	
2010	156,454	332,179	-52.9	356,227	-56.08	

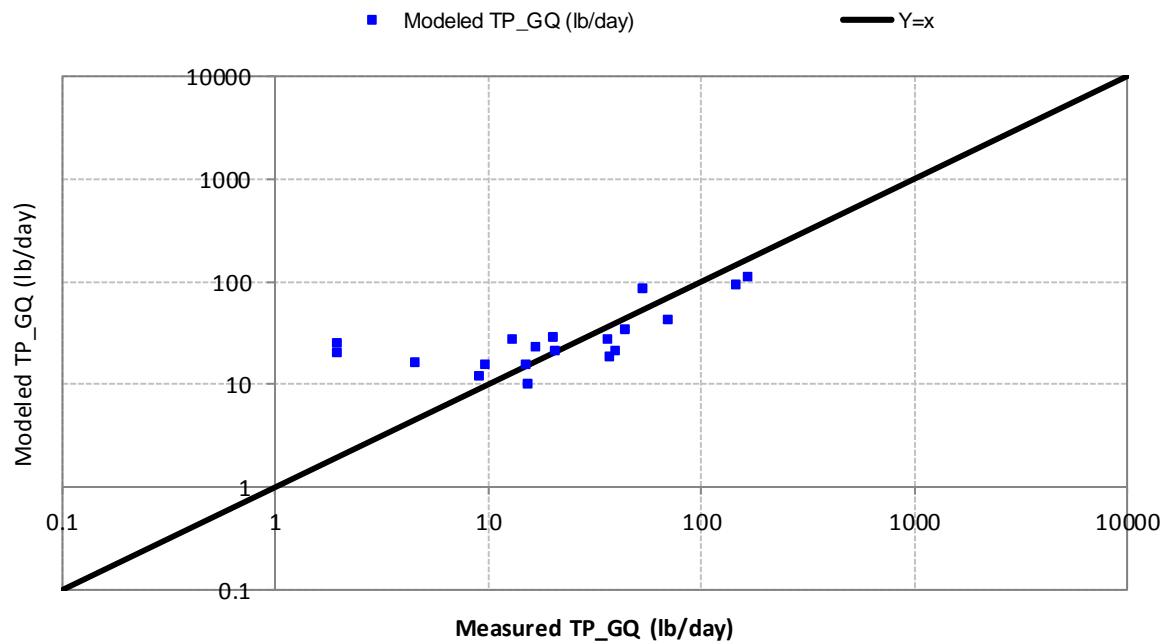


Figure B-303 Modeled vs. Observed Load TP\_GQ at EFFCR001

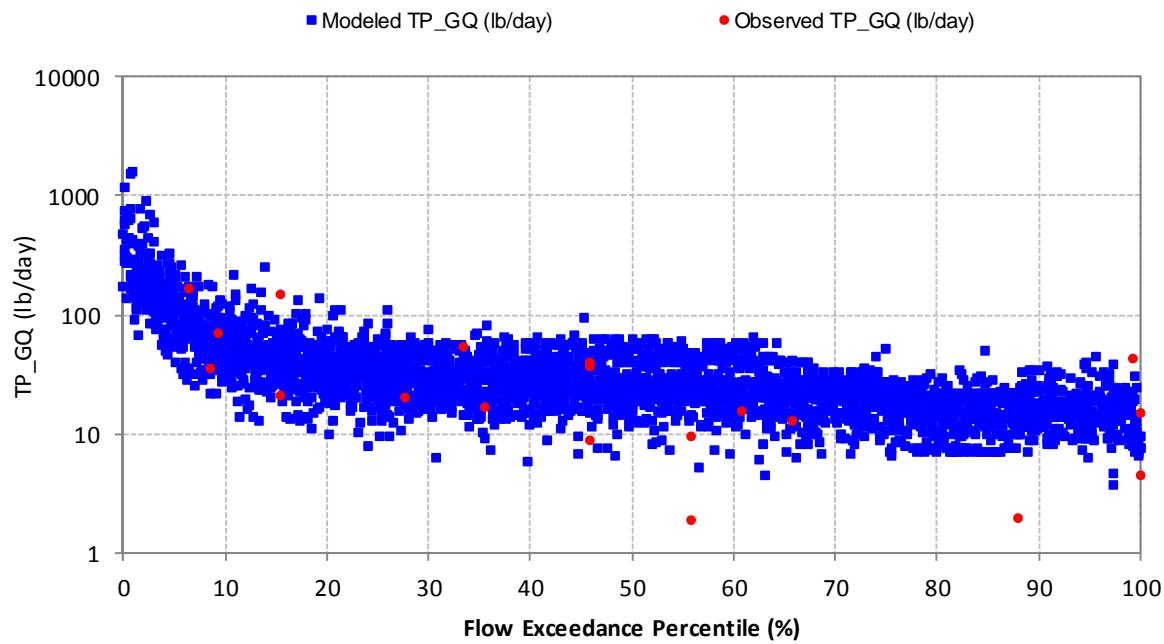


Figure B-304 Modeled vs. Observed Load TP\_GQ at EFFCR001

Table B-63 Modeled vs. Observed Load TP\_GQ at EFFCR001

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2006	17,873	25,393	-29.61	31,437	-43.15
2007	12,167	18,746	-35.09	13,827	-12.01
2008	17,262	17,437	-1	21,867	-21.06
2009	14,412	11,839	21.73	10,414	38.4
2010	14,944	13,098	14.1	13,375	11.73

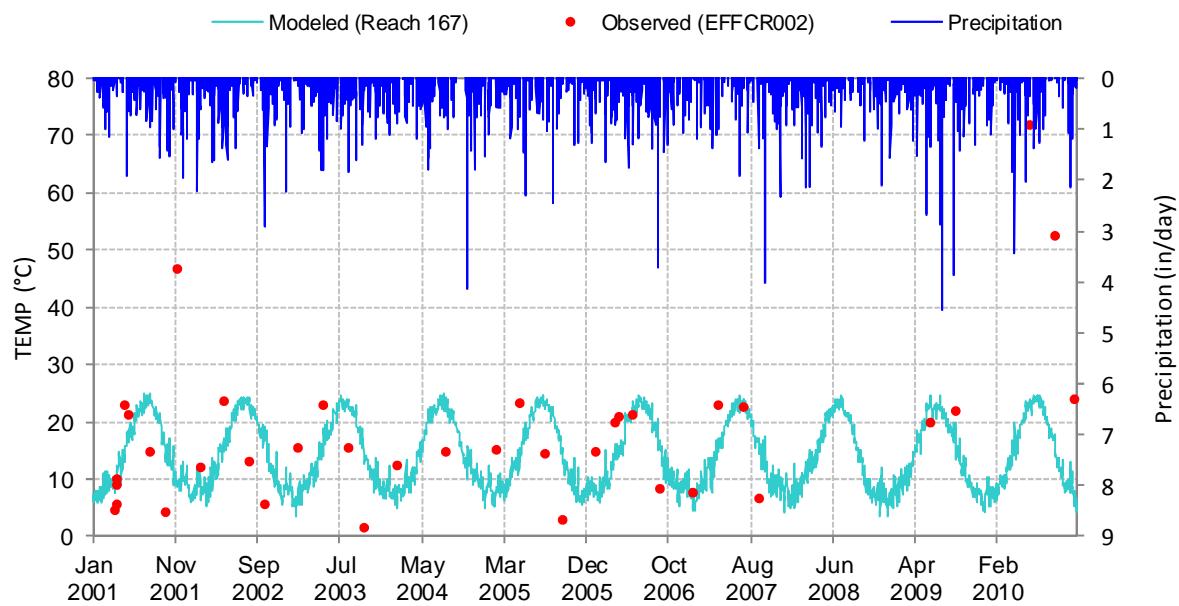


Figure B-305 Modeled vs. Observed TEMP (°C) at EFFCR002

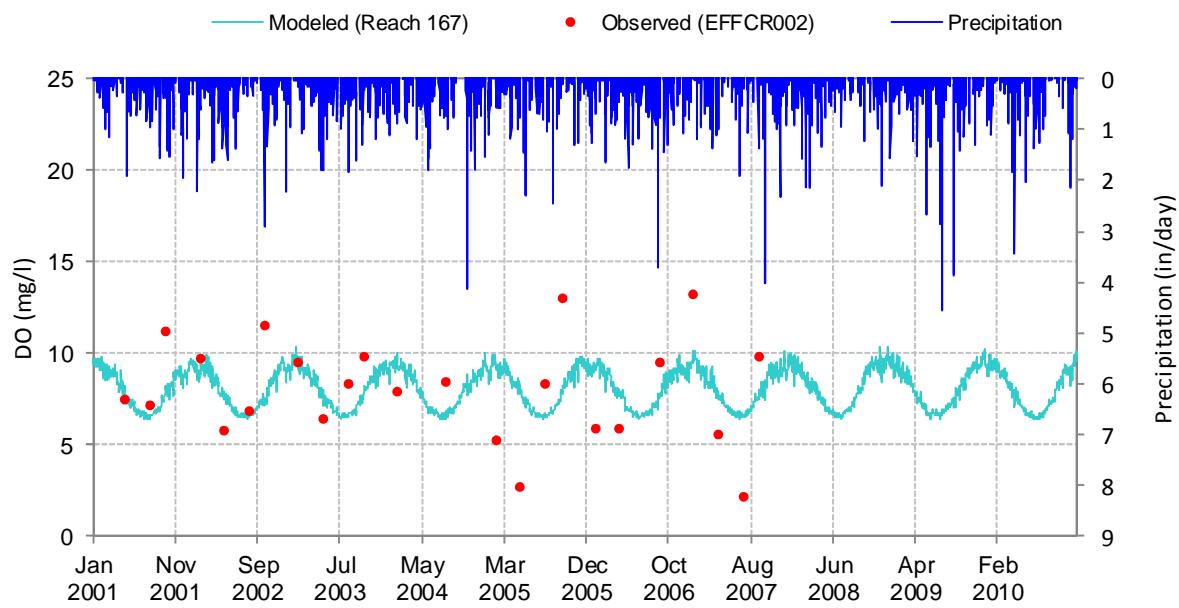


Figure B-306 Modeled vs. Observed DO (mg/l) at EFFCR002

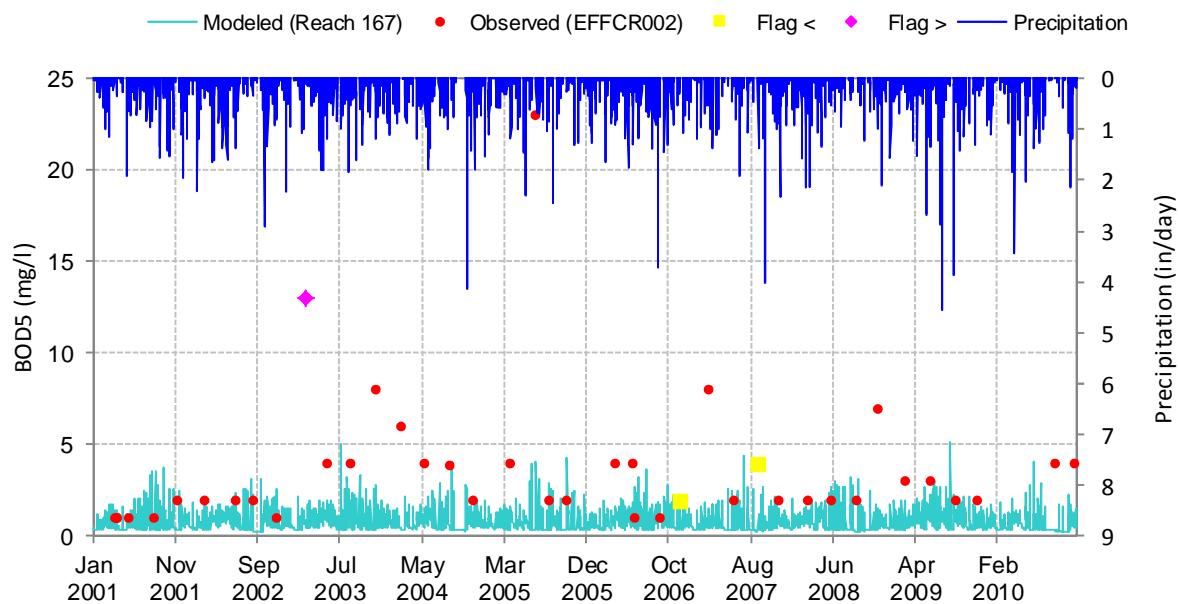


Figure B-307 Modeled vs. Observed BOD5 (mg/l) at EFFCR002

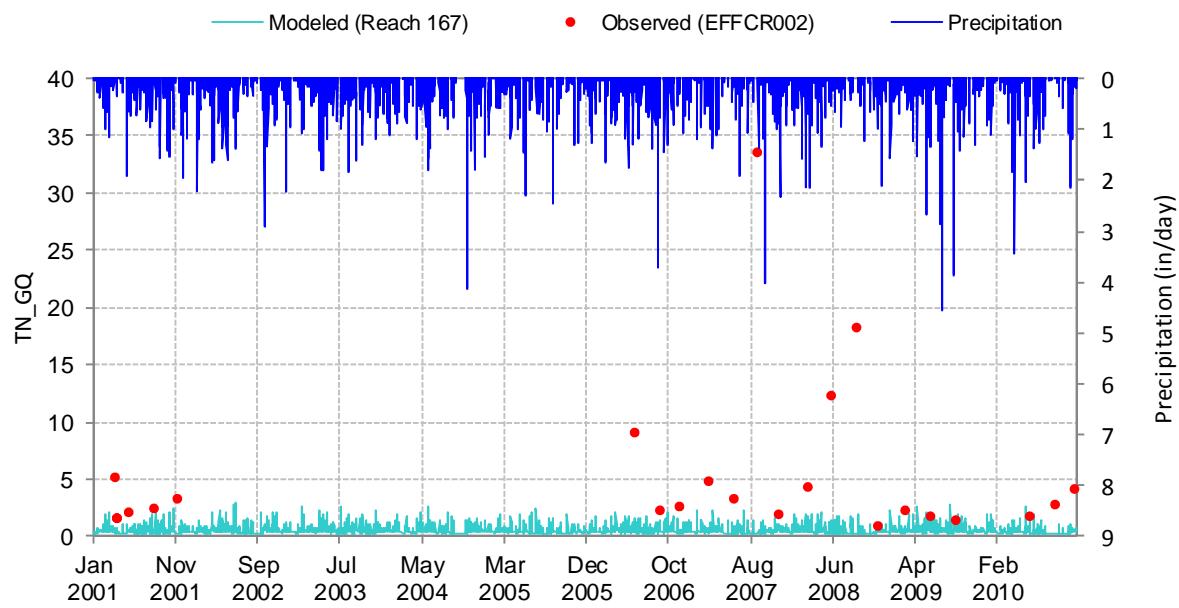


Figure B-308 Modeled vs. Observed TN\_GQ at EFFCR002

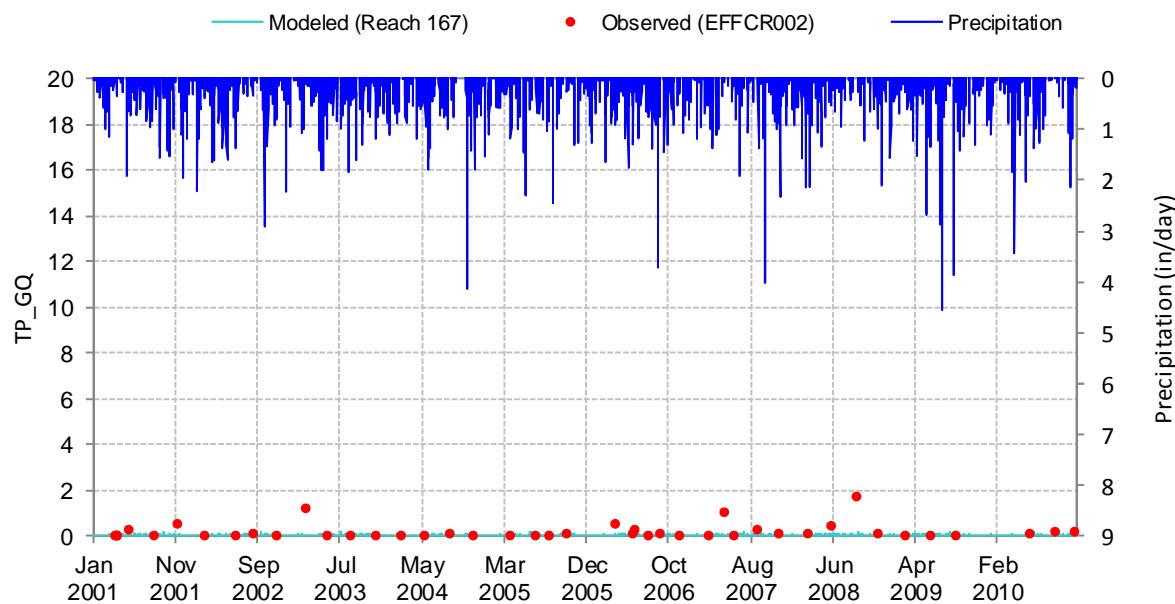


Figure B-309 Modeled vs. Observed TP\_GQ at EFFCR002

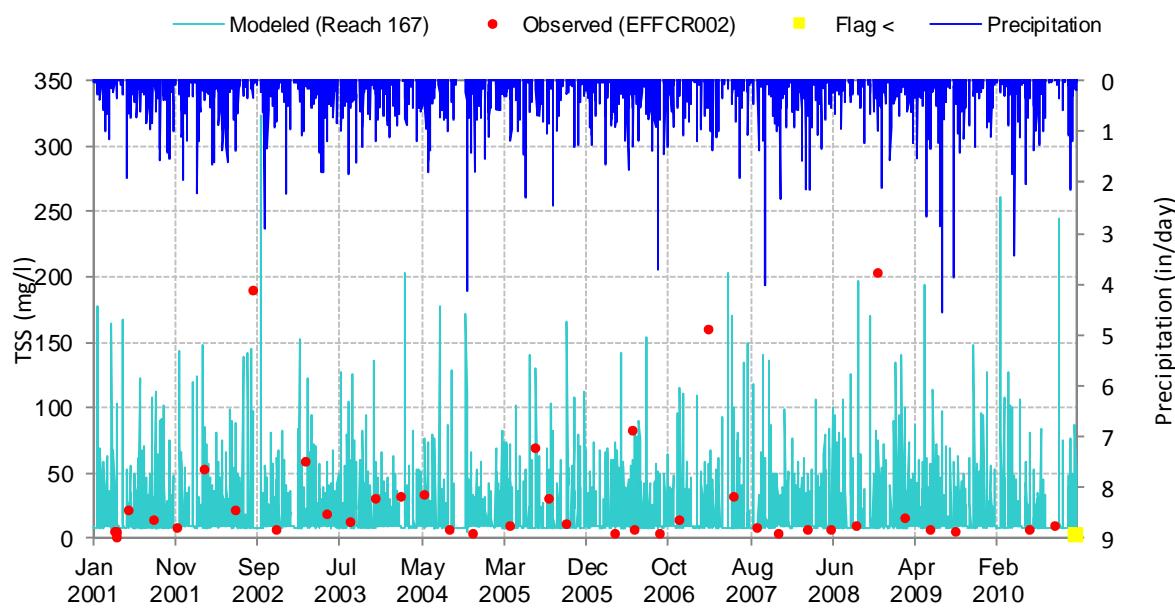


Figure B-310 Modeled vs. Observed TSS (mg/l) at EFFCR002

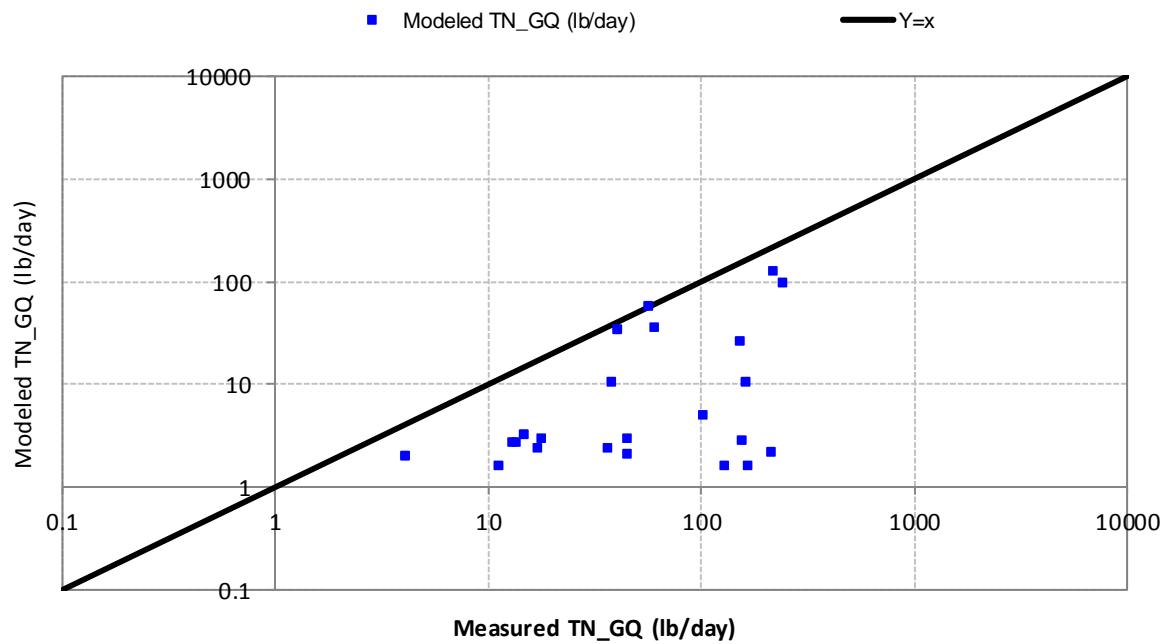


Figure B-311 Modeled vs. Observed Load TN\_GQ at EFFCR002

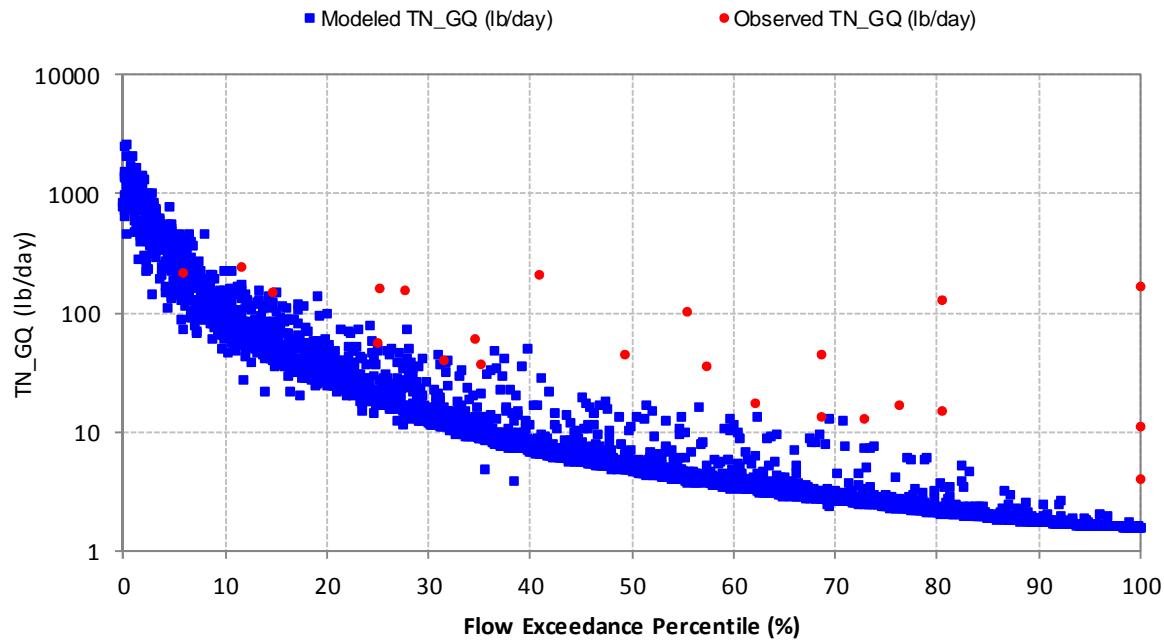


Figure B-312 Modeled vs. Observed Load TN\_GQ at EFFCR002

Table B-64 Modeled vs. Observed Load TN\_GQ at EFFCR002

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2001	15,388	39,161	-60.71	49,620	-68.99	
2006	22,784	124,203	-81.66	144,091	-84.19	
2007	16,103	214,398	-92.49	151,334	-89.36	
2008	19,038	119,864	-84.12	151,013	-87.39	
2009	26,840	34,552	-22.32	34,958	-23.22	

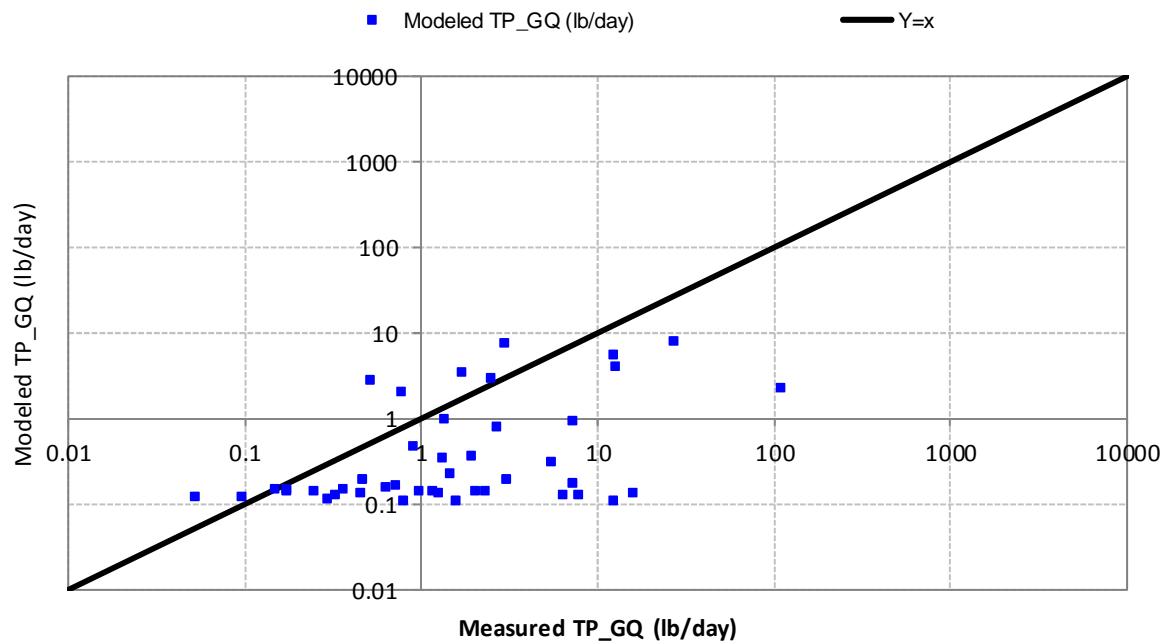


Figure B-313 Modeled vs. Observed Load TP\_GQ at EFFCR002

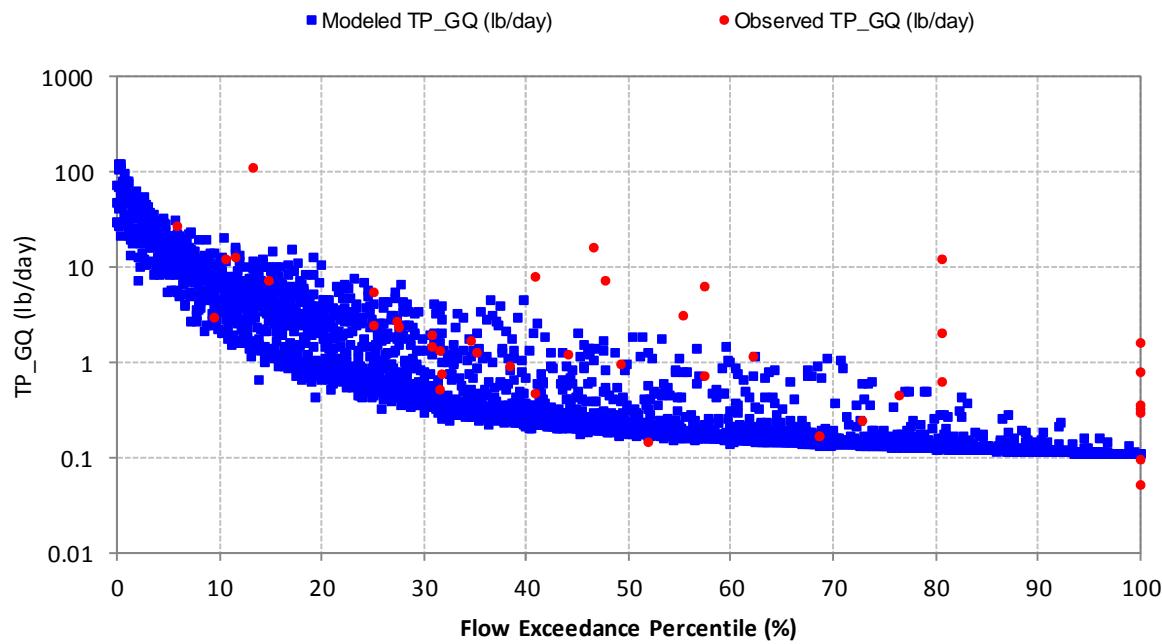


Figure B-314 Modeled vs. Observed Load TP\_GQ at EFFCR002

Table B-65 Modeled vs. Observed Load TP\_GQ at EFFCR002

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2001	844	4,590	-81.61	4,476	-81.14
2002	1,242	3,325	-62.65	3,735	-66.75
2003	1,138	8,485	-86.59	7,512	-84.85
2004	1,262	1,467	-13.94	1,357	-6.95
2005	787	584	34.82	808	-2.65
2006	1,171	4,700	-75.08	5,655	-79.29
2007	878	3,404	-74.21	3,966	-77.87
2008	983	6,248	-84.26	7,381	-86.68
2009	1,407	1,472	-4.42	1,393	0.95

Table B-66 Summary Qualitative and Quantitative scores for the MSD Water Quality Validation stations

Water Quality Station location: Main Stem- Floyds Fork					
MSD Station ID	Station name	Qualitative Score		Quantitative Score	
		TN	TP	TN	TP
EFFFF001	Floyds Fork at Ash Avenue	VG	G	18	45
EFFFF002	Floyds Fork at Bardstown Road	G	VG	47	21
EFFFF003	Floyds Fork at Old Taylorsville Road	G	VG	44	21
Water Quality Station location: Tributaries					
EFFCR001	Chenoweth Run # 1 at Gelhaus Lane	G	VG	50	23
EFFCR002	Chenoweth Run # 1 at Rickriegal Parkway	F	F	81	72

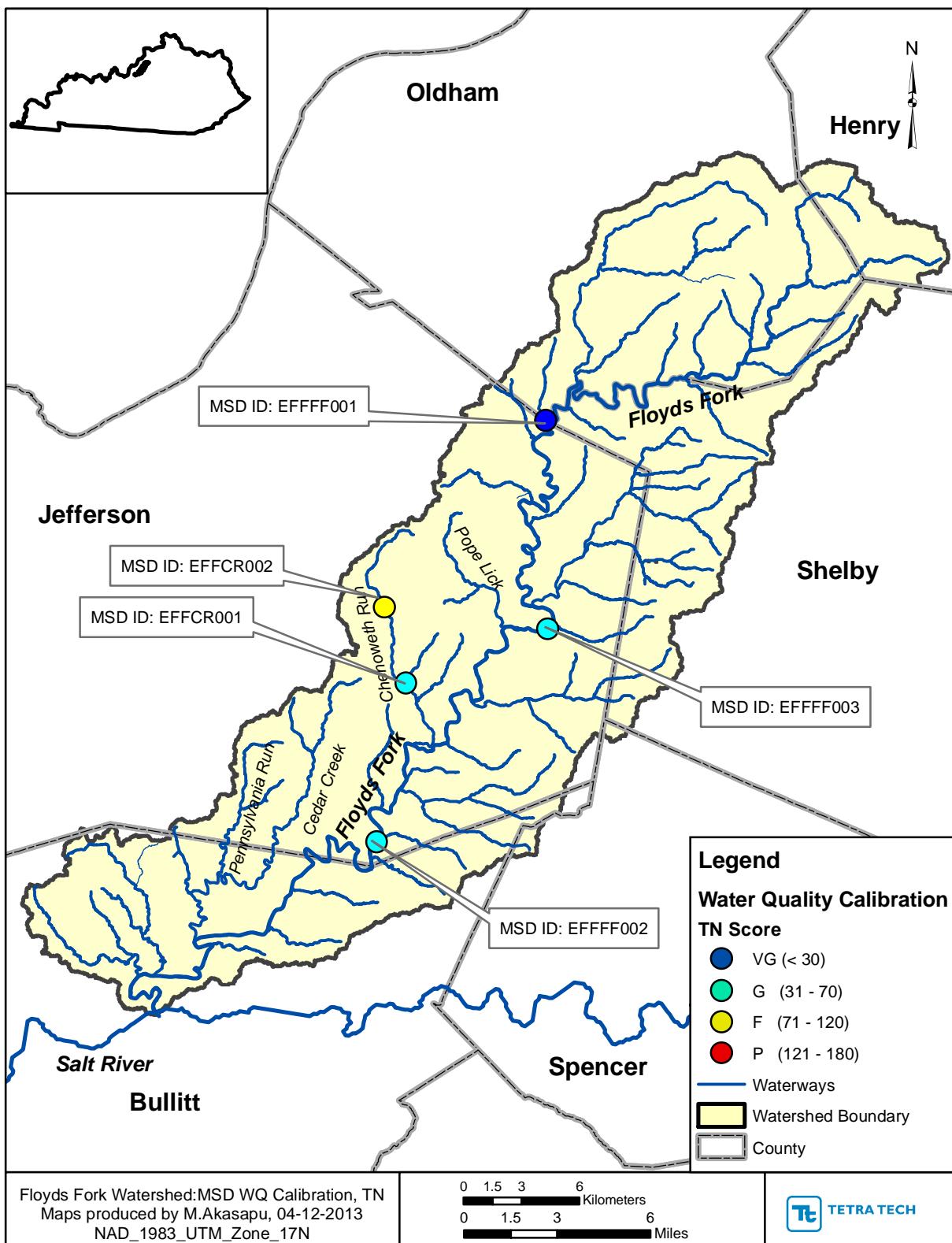


Figure B-315 MSD Water Quality for TN in the Floyds Fork Watershed

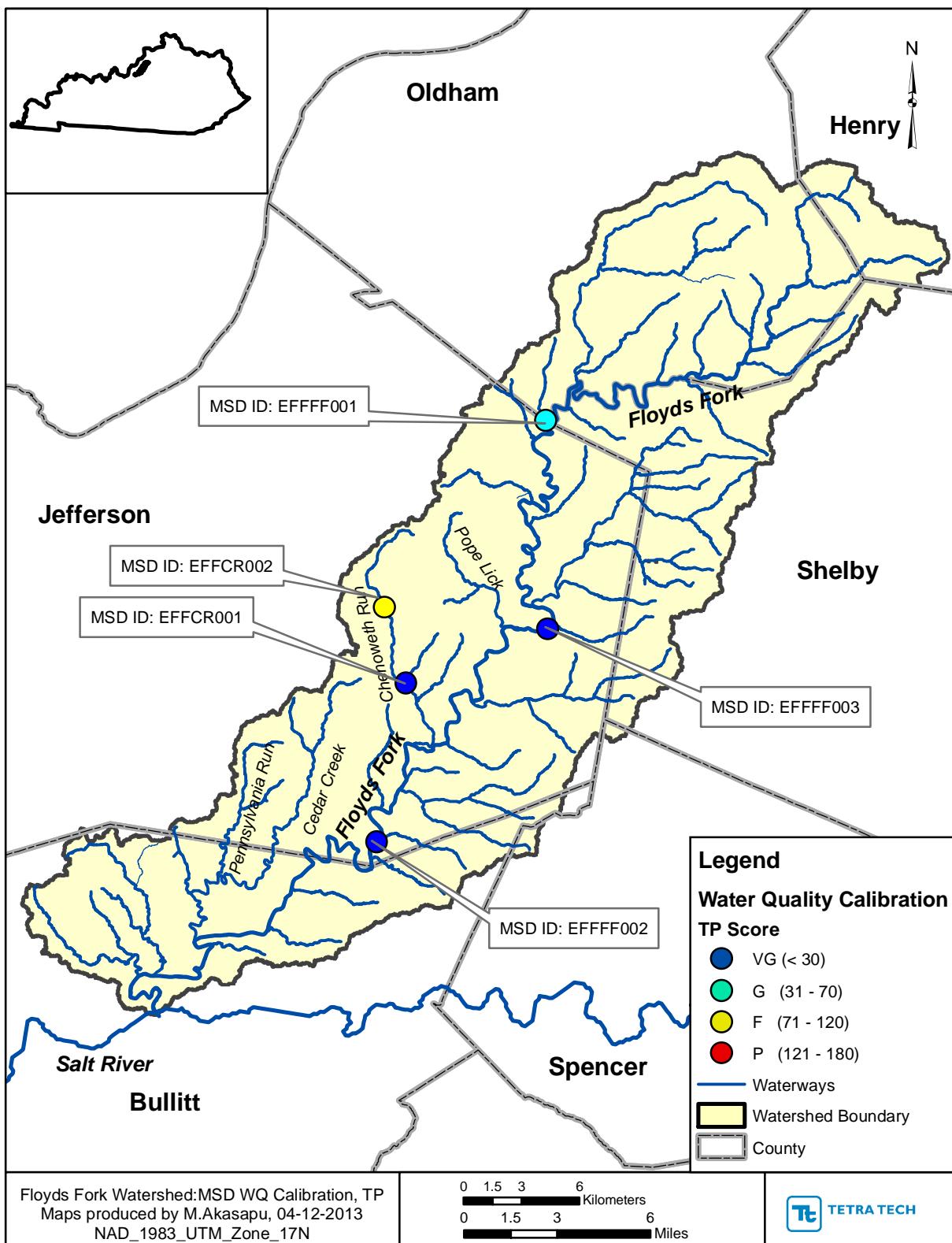


Figure B-316 MSD Water Quality for TP in the Floyds Fork Watershed